

Innovating the Skilled Reader: Tailoring Patent Law to New Technologies

E. Richard Gold and Karen Lynne Durell

SUMMARY

Claims construction has been a pivotal aspect of patent law for as long as patents have existed and been challenged. Specifically claims set out the boundaries of the scope of patent protection. The Supreme Court of Canada's articulation of the purposive construction test in the concurrent *Free World Trust v. Électro Santé Inc.* and *Whirlpool Corp. v. Camco Inc.* cases has identified the skilled reader as an integral construction tool. Prior to the *Free World* and *Whirlpool* decisions skilled readers were relied upon solely to provide technical clarification. Presently claims interpretation is to be undertaken through the eyes of a skilled reader. A skilled reader now is relied upon to provide contextual input, and even integrate into their interpretation a low level of legal understanding. This change has the potential to trigger a technology specific application of patent law to new areas of innovation, such as information technology and biotechnology.

L'interprétation des revendications est un aspect essentiel du droit des brevets depuis que les brevets existent et sont contestés. Plus particulièrement, les revendications fixent la portée de la protégée du brevet. La manière dont la cour suprême du Canada a articulé le test sur l'interprétation téléologique dans les arrêts concomitant, *Free World Trust c. Électro Santé* et *Whirlpool Corp. c. Camco Inc.*, a permis d'identifier le lecteur versé dans l'art comme un outil essentiel d'interprétation des revendications. Avant les arrêts *Free World* et *Whirlpool*, on avait recours aux lecteurs versés dans l'art seulement pour des précisions techniques supplémentaires.

Aujourd'hui l'interprétation des revendications doit se faire à partir de la lecture de la personne versée dans l'art. Maintenant, le lecteur versés dans l'art est causé fournir les informations adéquates et même intégrer dans son raisonnement un minimum de connaissances juridiques. Cet changement donne la possibilité de déclencher un application du droit des brevets spécifique aux technologies, comme technologie informatique et biotechnologie.

Innovating the Skilled Reader: Tailoring Patent Law to New Technologies

E. Richard Gold* and Karen Lynne Durell[†]

Patent law is often described as a ‘one-size-fits-all’ system that takes into account few, if any, of the particularities of different forms of technology.¹ Far from being viewed as a fault, the non-discriminatory nature of patent law is enshrined in international instruments, based on the assumption that patent law’s uniform approach to innovation makes it a flexible tool able to enhance all forms of innovation.² Nevertheless, the advent of new patentable technologies, such as biotechnology and information technology, challenges this assumption. Biotechnology gives rise to both ethical concerns relating to commercial control over matters important to health and agriculture and to specific concerns regarding infringement liability for adventitiously spread plants³ and access to required health services.⁴ Information technology raises concerns as to whether it is appropriate to extend the patent system to inventions – such as business methods – that may arrive in the public domain even without patent disclosure.⁵

* Bell Chair in e-Governance, McGill Faculty of Law; Director, Centre for Intellectual Property Policy, McGill University. This article is based on a Working Paper done for the Centre for Intellectual Property Policy. The authors would like to thank Teresa Scassa for her comments on the Working Paper and the financial support of the Social Sciences and Humanities Research Council and of the Canadian Institutes for Health Research.

[†] Doctoral Candidate, McGill Faculty of Law; Member of the Law Society of Alberta; Canadian Patent Agent.

¹ Adam L. Penenberg, “US Patent Law Can’t Cope with Human Clones” Wired News, February 27, 1997 available on-line at: <http://www.wired.com/news/politics/0,1283,2292,00.html> (last viewed: March 9, 2004) (quoting Rebecca Eisenberg stating: “US patent law is based on one size fits all”). Specifically patent law strives to be technology neutral.

² See, for example, *Agreement on Trade Related Aspects of Intellectual Property Rights*, 15 April 1994, 33 I.L.M. 1197, article 27(1).

³ Canadian Biotechnology Advisory Committee, *Patenting of Higher Life Forms and Related Issues: Report to the Government of Canada, Biotechnology Ministerial Coordinating Committee*, June, 2002, available at http://www.cbac-cccb.ca/documents/en/E980_IC_IntelProp.pdf (accessed 27 March 2003).

⁴ E. Richard Gold, Timothy A. Caulfield, Peter N. Ray, “Gene Patents and the Standard of Care” 167 JAMC 256 (2002).

⁵ See, for example, *State Street Bank & Trust Co. v. Signature Financial Group*, 149 F.3d 1368 (Fed. Cir., 1998). In this case, the Court determined that the patenting of business methods was permissible as long as the invention met the other criteria of patentability. However, business method patents have been criticised as an example of patents that circumvent the established criteria, namely novelty and non-obviousness, or at the very least challenge these criteria. We do not mean to suggest that the concern regarding the patenting of business methods is limited to

In a series of recent cases, the Supreme Court of Canada has, we argue, formulated a mechanism that at once preserves the formal technological neutrality of patent law while introducing a substantive test that addresses the specific characteristics of a technology. Through this mechanism, patent law remains facially neutral while permitting courts to rule on matters of validity and infringement taking into consideration the context of the invention as a whole.

The mechanism of which we speak is a reconstruction of the role of the skilled reader, a longtime mainstay of patent law. However, instead of the skilled person being confined to acting as a technological dictionary or filling in perceived blanks in patent claims, the Court has sent the skilled reader back to school. Although the exact knowledge of a skilled reader will depend upon the art of the patent at issue, the skilled reader must now have not only technical knowledge, but also knowledge of the context in which inventions are born and used, and a minimal understanding of patent law. This, we argue, is the implication of recent Supreme Court of Canada rulings.

The Court's two central decisions that reinvigorate the role of the skilled person are *Free World Trust v. Électro Santé Inc.*⁶ and *Whirlpool Corp. v. Camco Inc.*⁷. These cases defined, or perhaps more accurately, expanded the purposive construction test in Canadian law and consequently the role of the skilled reader. The purposive construction test provides a uniform platform from which courts are to rule on both patent validity and patent infringement. Under the purposive construction test, the first thing that a court must do in any case alleging infringement or invalidity is to construe the meaning of the patent claims. While previous tests also relied on

considerations as to whether the business method may have already been known in the public domain, or as an aspect of prior art. However, we raise this issue as an example of one of the negative consequences of broadly defining the scope of a patent.

⁶ [2000] 2 S.C.R. 1024.

⁷ [2000] 2 S.C.R. 1067.

the skilled reader⁸ to assist with this process, his or her function was limited. In contrast, under the new purposive approach the skilled reader is central – the entire process of claims interpretation is performed through the eyes of this reader.

The role of the skilled reader is of fundamental importance to understanding the scope of a patent, as it is the patent claims and, more importantly, the way in which they are interpreted, that define the activity or product that falls within the control of the patentee. This is clear, in light of recent high profile Canadian cases, such *Monsanto Canada Inc. v. Schmeiser*⁹ and *Harvard College v. Canada (Commissioner of Patents)*¹⁰, in which the interpretation of claims was pivotal to the whether patent protection was extended to certain types of products – namely genetically modified plant genes and a genetically modified mouse. The method of claims construction chosen to be applied is pivotal to the outcome of where the boundary of the scope of patent protection is perceived to exist.

Determining the scope of a patent is particularly important as it not only affects the level of financial investment in new technologies,¹¹ but may have social and ethical consequences. Patent claims can be, and there is some evidence that they are being, read broadly and could thereby affect: methods of research and development; patient access; and whether or not new entrants to a marketplace can be competitive. This article explores the nature of the newly reconstituted skilled reader through an examination of the recently articulated purposive construction test. As a tool wielded by the courts, the skilled reader may better achieve a balance between the interests of patentees, technology users and society.

⁸ For the purposes of this paper the terms “skilled reader”, “skilled addressee”, “person skilled in the art” and other related terms may be utilized interchangeably and will be understood to have the same meaning.

⁹ [2004] 1 S.C.R. 902.

¹⁰ [2002] 4 S.C.R. 45.

¹¹ *Apotex v. Wellcome Foundation Ltd.*, [2002] 4 S.C.R. 1, at para. 35.

In Part I of this article, we describe patent scope and the traditionally understood role of the skilled reader. We then contrast this with the new purposive construction test and discuss how it achieves balance in claims construction. In Part II we examine the nature and role of the skilled reader according to the purposive construction test and illustrate this role using the example of the interpretation of patent claims over genetic technologies. As indicated above, we argue that the skilled reader permits the courts to introduce flexibility into patent law so that the context in which inventions are made and used is considered.

PART I: The Development of the Purposive Construction Test

(a) Patent Scope

A patent's scope defines the boundaries of – also described as the fence posts surrounding – the monopoly rights granted to its owner. The determination of patent scope depends solely on the patent document, whether in the application or issued stage. In general terms, a patent must define an invention that is novel, useful and non-obvious.¹² More specifically, a patent must give “an adequate description of the invention with sufficiently complete and accurate details as will enable a workman, skilled in the art to which the invention relates, to construct or use that invention.”¹³ Although this statement describes the general level of disclosure required of a patent, it is the *Patent Rules* that set out the technical requirements.

Sections 93 and 94(1) of the *Patent Rules* list the specific components that must be included within a patent document, namely: a description of the invention; an abstract; at least one claim; and any drawing referenced in the description. A sequence listing or a copy of a sequence listing in computer readable form, may also be required in accordance with rule 111(b)

¹² *Patent Act*, R.S.C. 1985, c. P-4 as amended at ss. 2 and 28.3. In actual fact, an innovation may not be patentable even if it meets the criteria of novelty, utility and non-obviousness if either it falls within a category of non-patentable subject matter as have been defined in s. 27(8) of the Act or it is not considered an ‘invention’ as understood by jurisprudence.

of the *Patent Rules* should the patent describe a nucleotide or amino acid sequence (that is, DNA or full or partial proteins). However, it is the description, abstract, claims and the drawings that compose the patent document itself.

Patent specification is the term generally applied to the written content of a patent document, including the disclosure, or detailed description, of the invention and the claims.¹⁴ There is a direct relationship between claims and the description. Claims positively specify all of the elements, features, and critical aspects of the invention that are required to ensure the outcome of the results detailed in the description of the invention.¹⁵ Claims must be fully supported by the description.¹⁶ Should a claim be found to cover subject matter that is not included in the description, the patent will be rendered invalid.¹⁷ While the scope of the patent rests upon the claims, the claims themselves may reflect nothing more than the content of the description of the invention.

Hughes and Woodley describe the scope of a patent in this manner: “The nature of the invention must be found in the specification and, in particular, in the claims; they define the monopoly and are addressed to persons skilled in the art; the claims provide enlightenment as to what the invention really is, and define its scope, but the disclosure describes the invention.”¹⁸ Upon the grant of a patent, the holder receives “the exclusive right of making, constructing, and using an invention and vending it to others to be used.”¹⁹ Inherent in this exclusive right is the ability of the patent holder to exclude others from exploiting the patented invention. With this goal in mind, the *Patent Act* provides that an action may be taken against any party who infringes

¹³ Robert T. Hughes and John H. Woodley, *Hughes and Woodley on Patents*, looseleaf (Markham: Buttersworth, 1984) at §1.

¹⁴ *Ibid.* at §18.

¹⁵ Canadian Intellectual Property Office, *Manual of Patent Office Practice*, looseleaf, (Hull: 1998) at 5.03, at 11.01.

¹⁶ *Patent Rules* SOR/96-428 as amended SOR/99-291 at r. 84.

¹⁷ *Supra* note 15 at 11.04.02.

¹⁸ *Supra* note 13 at §18.

a patent.²⁰ Although the term ‘infringement’ is not specifically defined within the *Patent Act*, it is understood to include, “any act which interferes with the full enjoyment of the monopoly granted to the patentee.”²¹ This then brings us back, full circle, to the concept of patent scope since we can only determine whether an act interferes with the full enjoyment of the monopoly if we understand the boundaries – or scope – of the monopoly. Thus, inherent in the ability of a patentee to impose an infringement action is the requirement that a patentee be able to clearly define the boundaries of his or her monopoly right.²²

As a result of the increasing complexity of patent claims, patent scope has become a subject of great debate. Patents can be very lucrative for their owners, representing earnings in the hundreds of millions of dollars.²³ Under the *Canadian Patent Act*, it is solely the first party to file a patent application who has the right to reap rewards to be gained therefrom. This means that competitors who may have been working upon an invention for many years, but who were not the first to file a patent application for the invention, can be left without any rights in the invention at all, whereas the owner is granted the right to launch an infringement suit against any competitor who impinges on his or her patented territory.²⁴ Moreover, once the patent has been granted a competitor may have to wait as long as twenty years from the date the patent application is filed to be able to use the invention in any manner whatsoever.²⁵ During the term of a patent a non-patent holder can only make use of the invention if he or she complies with

¹⁹ *Supra* note 13 at §1.

²⁰ *Supra* note 12 at s. 54.

²¹ *Supra* note 13 at §26.

²² An infringement action can be countered by an allegation that the patent itself is invalid. A patent can be found to be invalid if the technical requirements for composition are not met, or if the patent is found to be anticipated or obvious, as have been defined in jurisprudence. See *Beloit Canada Ltd. v. Valmet-Dominion Inc.* (1997), 73 C.P.R. (3d) 321 (FCA).

²³ *Supra* note 11 at para. 35.

²⁴ In some cases infringement actions are launched as a scare-tactic intended to deter competitors away from doing business in a patent holder’s market.

terms, conditions and fees set at the discretion of the patent holder. This can represent a significant marketplace detriment.

For this reason, some companies engage in legal action to challenge the rights of a patent holder and the validity of existing patents. Any form of patent litigation can be time-consuming and expensive for all parties involved. Yet, in light of the potential financial gains to be realized from the rights to an invention, we see the frequency of actions either seeking to undermine existing patent rights or to protect patent rights increasing. Such actions require a clear determination of the scope of a patent.

A second factor that has led patent scope to be a subject of debate is the increasing complexity of patent claims. This increase in complexity can be explained, in part, by the increased technical nature of new technologies, such as biotechnology (as noted by the World Intellectual Property Office)²⁶ and information technology. The increased complexity of patents makes it more difficult to establish the scope of an invention because to properly understand the boundaries of a complex invention, one must bring to bear a great deal of technical expertise. Whereas it may be fairly simple to define the scope of a mechanical invention comprising limited components and function, the same is not true of new, more complex technologies such as genes or chemical compounds.

Given the importance and increasing difficulty in establishing patent scope, it is not surprising that the Supreme Court of Canada turned its attention to this issue in its *Whirlpool* and *Free World* decisions. In *Free World* Justice Binnie stated that claims construction, “raises

²⁵ Furthermore, as per s. 55(2) of the *Patent Act*, *supra* note 12, once a patent is granted the patent holder has the right to take action against competitors who have infringed the rights of the patentee between the date of the publication of the patent application and the granting of the patent.

²⁶ World Intellectual Property Office; online: <<http://www.wipo.int/news/en/overview.html>>.

important questions about the scope and ambit of a patent owner's monopoly."²⁷ He then pointed to the dangers inherent in misinterpreting the scope of a patent: "Too much elasticity in the interpretation of the scope of the claims creates uncertainty and stifles competition. Too little protection robs inventors of the benefit they were promised in exchange for making a full and complete disclosure of the fruits of their ingenuity."²⁸ A determination of the boundaries of patent scope is a delicate process that can have a great effect upon the monopoly enjoyed by a patent holder and the freedom of non-patent holders to invent.

In summary, establishing the scope of a patent is crucial to ensure the proper functioning of the patent system. Patent scope is determined by way of a review of both the written description and all claims included in an issued patent.²⁹ The skilled reader is employed as a purposive construction tool through which courts attempt to correctly determine the boundaries that dictate the scope of a patent.

(b) The Traditional Skilled Reader

The skilled reader has been an integral element of patent claims construction for many years. An early articulation of the role of the skilled reader in Canadian patent law is as follows: "It is a cardinal principle that the claims in a patent should be construed in the light of the common knowledge which a person skilled in the art to which the invention defined in the claims relates is assumed to have."³⁰ The skilled reader was (and still is) a legal fiction, a means for the court to introduce technical knowledge into the exercise of claims construction. Through the skilled reader the judge could attribute technical dictionary meanings to words found in patent

²⁷ *Supra* note 6 at para. 3.

²⁸ *Ibid.*

²⁹ Of course, a patent holder cannot enjoy their rights until a patent is granted upon the filed application. The components required to complete a filed patent application are those upon which the eventually issued patent will be based. The issued patent will likely not exactly replicate the filed patent application as the originally filed document will be modified according to an office action process, between the patent applicant and a Patent Examiner.

³⁰ *Ernest Scragg & Sons Ltd. v. Leeson Corp.*, [1964] Ex. C.R. 649 at para 9.

claims and fill-in perceived blanks within patent specifications and claims with definitions obvious to any person skilled in a particular field of art.

The traditionally understood skilled reader had obvious limitations. Because the skilled reader contributed nothing more than technical definitions, the reader provided courts with no context to understand the potential uses of an invention. Furthermore, the skilled reader could not be used by a court as a tool to ascertain if the patent claims served the public good. The judge was either left to make these decisions him or herself without guidance or, more likely, these decisions were simply ignored.

(c) The Introduction of the Purposive Approach

The Supreme Court of Canada introduced the purposive construction test in *Free World* and *Whirlpool*. Justice Binnie, delivering the majority judgement in *Whirlpool*, recognized that the purposive construction test he proposed was not wholly novel. In fact, he borrowed many elements of the test from previously established principles of claims interpretation articulated in Canadian and United Kingdom jurisprudence.³¹

Both *Whirlpool* and *Free World* borrowed heavily from the *Catnic Components Ltd. v. Hill & Smith Ltd.*³² decision which had introduced a similar purposive construction approach to English common law. In *Catnic*, the question before the House of Lords was how literally courts ought to read patent claims. In answering this question, Lord Diplock placed the skilled reader squarely at the centre of claims construction.

³¹ *Supra* note 7 at para 50.

³² [1982] R.P.C. 183 (H.L.). At issue was whether a window lintel that the patent claims stated should “extend vertically” should cover a lintel that was six degrees off vertical.

The *Catnic* and *Whirlpool* tests rely on the identification, as facilitated by the skilled reader, of elements of patent claims as either essential or non-essential.³³ As Justice Binnie explained:

In *Catnic*, as in the earlier case law, the scope of the monopoly remains a function of the written claims but, as before, flexibility and fairness is achieved by differentiating the essential features (“the pith and marrow”) from the unessential, based upon a knowledgeable reading of the whole specification through the eyes of the skilled addressee rather than on the basis of “the kind of meticulous verbal analysis in which lawyers are too often tempted by their training to indulge.”³⁴

The development of this test, which placed the skilled reader at the heart of the exercise of differentiating those parts of the claim language that defined the scope of the patent monopoly (the essential elements) from those that served a less crucial function (the non-essential elements), amounted to, in Binnie J.’s view, the blending of “some fine old whiskies into a new bottle.”³⁵

The *Catnic* case has been described as “a watershed decision” introducing “an analysis of the claims, given the purpose of the invention.”³⁶ The purposive construction test articulated in *Catnic* asked whether a skilled reader:

would understand that strict compliance with a particular descriptive word or phrase appearing in a claim was intended by the patentee to be an essential requirement of the invention so that any variant would fall outside the monopoly claimed, even though it could have no material effect upon the way the invention worked.³⁷

Although, identical in purpose to its *Catnic* counterpart, the purposive approach finally put forward by the Supreme Court of Canada in *Whirlpool* differed in its exact steps. This evaluative approach is slightly different than the test ultimately applied by the Canadian Court. In

³³ Donald M. Cameron, *Cameron’s Patents and Trade Secrets Law* at Chapter 4 - Claim Construction, online: <<http://www.jurisdiction.com/patweb04.pdf>, at 35>.

³⁴ *Supra* note 7 at para 48.

³⁵ *Ibid.*

³⁶ Carol V.E. Hitchman and Donald H. MacOdrum, “Don’t Fence Me In: Infringement in Substance in Patent Actions” (1990), 7 C.I.P.R. 167 at 178.

particular, the *Catnic* test has been criticized for being unclear about the date upon which a skilled reader should be deemed to have relevant knowledge of the art of the invention.³⁸ To avoid this confusion, the Canadian test applies the date of the publication of the patent application.³⁹ Moreover, the *Catnic* test extended to minor variants that were devoid of material effect upon the function of the invention.⁴⁰ The Canadian test does not consider minor non-material variants to be essential elements.

However, despite these slight differences in evaluative procedure it is undeniable that the purpose of both tests is the same. *Catnic* requires a skilled reader to distinguish essential elements of an invention, through reliance upon an understanding of the invention gained solely from the patent specification.⁴¹ The result of both the Canadian and English tests is that skilled readers “have assumed the mantle of the reasonable person able to presume the intent of the patentee with the requisite knowledge and experience in determining what is necessary to constitute the subject matter of the patent,” or in other words patent scope.⁴²

Emanating from a common goal, the Canadian purposive construction test builds on the role of the skilled reader enunciated in *Catnic*. The Canadian Court established that, as a first step of all infringement or validity actions, patent claims must be construed.⁴³ Thus the test was designed to provide a uniform foundation for validity and infringement actions so that differences in “claims construction for the purpose of validity than for the purpose of infringement” that may occur if infringement or invalidity considerations are brought to bear

³⁷ *Supra* note 32 at 66.

³⁸ *AT & T v. Mitel* (1989), 26 C.P.R. (3d) 238 (F.C.T.D.).

³⁹ *Supra* note 13 at §99. The publication date of an invention is not explicitly defined within the *Patent Act*, but is generally understood to mean a date eighteen months after either the filing date or the earliest priority date of a patent application, as per s. 10 of the *Patent Act*, *supra* note 12. A discussion of this term is also engaged in by the Court in *Free World*, *supra* note 6 at para. 54.

⁴⁰ Catherine Ng, “The Purpose of “Purposive Construction””, (2000) 15 I.P.J. 1 at 26.

⁴¹ *Ibid.* at 24.

⁴² *Ibid.* at 25.

upon the claims construction process are avoided.⁴⁴ This ensures that claims are not given “a results-oriented interpretation” and that “claims receive one and the same interpretation for all purposes”.⁴⁵ That is, and this is an important point, claims construction is to be undertaken outside of any considerations relevant to a particular allegation of infringement or invalidity. As a first step, patent construction occurs prior to the waters of debate becoming murky with arguments relating to infringement or invalidity. Consequently, claims interpretation is unfettered and is solely based on the wording of the claims read in the context of the invention as a whole.

The actual test that the Court articulated has two distinct steps. First, adopting the knowledge of a fictional skilled reader – being the common knowledge of a worker skilled in the art to which the patent relates – the court must “isolate descriptive words and phrases which identify the elements of the invention” within the claims.⁴⁶ Second, the court is to decide whether a skilled reader would consider the isolated element to be “clearly not intended to be essential” or whether, that skilled reader would, as of the publication date of the patent, appreciate that a “particular element could be substituted without affecting the working of the invention.”⁴⁷ The test, the Court noted, is to be applied on a claim-by-claim basis in order to identify all of the essential elements.⁴⁸

A final comment by the Court on purposive construction limits the scope of materials that may be relied upon by the skilled reader. “The rule is that the claims must be regarded as definitely determining the scope of the monopoly, having regard to the due and proper

⁴³ *Supra* note 7 at para. 43.

⁴⁴ *Supra* note 7 at para. 49(b).

⁴⁵ *Ibid.* at paras. 49(a) and 49(b).

⁴⁶ *Supra* note 6 at paras. 55 & 68.

⁴⁷ *Ibid.*

⁴⁸ *Ibid.*

construction of the expressions they contain.”⁴⁹ To uphold this goal the Court confirmed that purposive construction should only involve tools of interpretation found within the “four corners of the specification”.⁵⁰ This approach denies the application of prosecution history (or file wrapper) or any other external device to claims interpretation. The Court characterized the specification as:

[A] unilateral statement by the patentee, in words of his own choosing, addressed to those likely to have a practical interest in the subject matter of his invention (i.e. ‘skilled in the art’), by which he informs them what he claims to be the essential features of the new product or process for which the letters patent grant him a monopoly.⁵¹

The specification of the patent must include a written description of the invention, at least one claim and may include drawings.⁵² Purposive construction relies solely upon the specification contents to construe the claims.⁵³

In summary, the Canadian purposive construction test sets a uniform foundation for validity and infringement actions. Moreover, through both its reliance on the skilled reader in all phases of the test and by arming this reader with more than narrow technical knowledge, the Court created a foundation that supports a contextual application of patent law that may be utilized equally well by many different areas of technology. To understand this, we turn to the central policy underlying patent and, indeed, all of intellectual property law: balance.

(d) Balancing as a Basis of Intellectual Property

The achievement of balance is an acknowledged goal of, not only the Canadian patent system but of, common law intellectual property regimes generally. In developing the purposive construction test, the Court was careful to ensure that it achieved balance on two levels: a

⁴⁹ *Supra* note 6 at para. 35.

⁵⁰ *Supra* note 7 at para. 49(f).

⁵¹ *Supra* note 7 at para. 44.

⁵² See: *Supra* note 12 at ss. 27(3) & 27(4); *supra* note 13 at §101; and *supra* note 16 at r. 82.

⁵³ *Supra* note 36 at 202.

balance between creators and those who use the creation; and a balance between private and public interests.⁵⁴ While balance is generally based on a utilitarian calculus of costs and benefits, it can be stated in a variety of ways depending upon the theoretical model held to support an intellectual property right. The most common form of balance is suggested by the following extract from Hughes and Woodley:

The “bargain” theory lies at the heart of patent protection. A patent is a statutory monopoly which is given in exchange for a full and complete disclosure by the patentee of his or her invention. The disclosure is the essence of the bargain between the patentee, who obtains a monopoly for the relevant period on exploiting the invention, and the public, which obtains open access to all of the information necessary to practice the invention.⁵⁵

Here, Hughes and Woodley suggest that the balance takes the form of a bargain between an unwilling discloser of information – the inventor – and society. Michele Svatos suggests that a system seeking this type of balance assumes that “any welfare losses due to the restrictions in disseminating an invention are presumably far outweighed by the necessary incentive which such restrictions provide.”⁵⁶

This particular vision of balance, as captured by the bargain theory, underlies several Canadian court decisions. In particular, it not only underlies the patent decision in *Free World*, in which the Court stated that “patent protection rests on the concept of a bargain between the inventor and the public...It was ever thus,” but it has found recent enunciation in several other of the Court’s decisions, including copyright decisions. Non-patent cases are relevant to our discussion of balance, as the articulation of a means of achieving balance in other forms of intellectual property can be instructional to the patent regime.

⁵⁴ See Jeremy Waldron, “From Authors to Copiers: Individual Rights and Social Values in Intellectual Property” (1993) 68 Chi.-Kent L. Rev. 841. Waldron discusses the need to balance the interests of inventors not only against those of the general public, but against particular individuals who may be harmed by exclusion from the invention.

⁵⁵ *Supra* note 13 at §1.

⁵⁶ Michele Svatos, “Biotechnology and the Utilitarian Argument for Patents” (1996) 13 Social Philosophy and Policy 113 at 114.

A recent example is the *Theberge v. Galerie d'Art du Petit Champlain inc.*⁵⁷ decision which involved the balancing of interests between artists and owners of particular material copies of a copyrighted work. According to the Court, a proper balance between these interests is achieved not simply by recognizing the rights of the creator but also by limiting rights. That is, balance involves giving due weight to the author's contribution to society through the grant of rights while at the same time respecting the rights of individual users through a limitation of authors' rights. The scale of rights should not tip unfairly in favour of authors to the detriment of individual users or *vice versa*. It is, according to the Court, just as much an abuse to give too much weight to the rights of a creator as it is to give these rights too little weight:⁵⁸

Excessive control by holders of copyrights and other forms of intellectual property may unduly limit the ability of the public domain to incorporate and embellish creative innovation in the long-term interests of society as a whole, or create practical obstacles to proper utilization.⁵⁹

The placing of equal weight on both the limitations on creators' rights and the rights themselves found voice more recently in the *CCH Canada Ltd. v. Law Society of Upper Canada*⁶⁰ decision. In *CCH*, the Court defined the scope of a creator's rights in terms of the limits on those rights. The Court stated that if rights are tipped too far in favour of authors the result would be "the loss of society's interest in maintaining a robust public domain that could help foster future creative invention," an unacceptable result.⁶¹ The Court concluded that a balanced approach would, "safeguard against an author being overcompensated for his or her work."⁶²

⁵⁷ [2002] 2 S.C.R. 336 at para. 28. This case refers to copyright infringement specifically, but Justice Binnie's discussion of the relationship between economic rights and proprietary rights is an expression of the traditional Canadian view of the balance of rights inherent in intellectual property systems, including the patent regime.

⁵⁸ *Ibid.* at para. 31.

⁵⁹ *Ibid.* at para. 32.

⁶⁰ [2004] SCC 13.

⁶¹ *Ibid.* at para 23.

⁶² *Ibid.*

It is interesting to note that the Court in *CCH* was dealing with exactly the same issues and concerns regarding balance as were raised in the development of the purposive construction test. The issues in *CCH* were whether the author actually held a copyright in the work – a question of validity – and whether the activity complained of infringed upon that right – a question of infringement. As in *Free World*, the Court took a uniform approach to questions of validity and infringement, holding that both must be determined on the basis of the same balance of interests between authors and those who use those authors' works.

(e) *Balance under Patent Law*

The Court has simultaneously engaged in balance discourse in the context of patent law. Two patent cases, rendered concurrently, exemplified the Court's attitude toward balance – *Harvard College*⁶³ and *Apotex Inc. v. Wellcome Foundation Ltd.*⁶⁴

Harvard College illustrates how the majority of the Court – albeit a slim one – accepted the tenet that balance must underlie intellectual property law. In that case the majority held that, because the *Patent Act* was not sufficiently balanced to take into account the challenges posed by biotechnology, it could not have been Parliament's intent to include higher life forms within the scope of the Act.⁶⁵ The Court noted, for example, that the Act made no attempt to balance the interests of researchers against those of patent holders.⁶⁶ They reasoned that because including higher life forms within the ambit of the Act would throw off the balance that underlies all of intellectual property law, Parliament could not have intended for higher life forms to be patentable.⁶⁷ The majority of the Court thus deemed that determinations as to whether the *Patent Act* should be modified to achieve balance and how to achieve this should be left to the

⁶³ *Supra* note 10 at para. 49.

⁶⁴ *Supra* note 11.

⁶⁵ *Ibid.* at paras. 183, 185 and 187.

⁶⁶ *Ibid.* at paras. 173-74.

discretion of Parliament.

The Court was more explicit about the need to achieve balance in its decision in *Apotex*. Foreshadowing the decision in *CCH*, the Court stated that “cluttering the public domain with useless patents” and “granting monopoly rights in exchange for misinformation” is not in the public interest. Such activities tilt the balance of the bargain between patent holder and society to favour the patent holder.⁶⁸ With this in mind the Court articulated the sound prediction test, which set limits on the possible speculative nature of patent disclosure.⁶⁹ Thus, the *Apotex* decision specifically facilitates balance between the inventor and the public in the pharmaceutical and other related scientific sectors, such as genetic technologies. Moreover, it also highlights the fact that an integral aspect of achieving balance is that the public must be able to rely upon the claims of a patent. Misinformation will not be tolerated. The purposive construction test has similar goals.

In both *Free World* and *Whirlpool*, the Court stated that purposive construction is intended to promote an interpretation of a patent that is fair and equitable, or in other words balanced. Patent claims stake out a territory for legal protection. These claims act as fences around fields of monopolies warning others that there is a danger should they decide to trespass.⁷⁰ The danger to the would-be trespasser is that he or she may face an infringement action that may entail severe disruption and high costs to defend. Because of these consequences, individuals should be put on clear notice of the danger that they face.⁷¹ Fear of inadvertent infringement can negatively affect research and development as well as broader economic

⁶⁷ *Ibid.* at paras. 195-96.

⁶⁸ *Ibid.* at para. 66. “Misinformation” in this case did not explicitly refer to fraudulent prior art disclosure.

⁶⁹ *Ibid.* at para. 70. Sound prediction puts applicants to the task of demonstrating that the utility of their patent claims is based upon a sound line of reasoning from which an outcome can be factually inferred, given the current state of knowledge, but does not require absolute certainty that the invention will function as claimed.

⁷⁰ *Minerals Separation North American Corp. v. Noranda Mines, Ltd.*, [1947] Ex. C.R. 306 at 352.

⁷¹ *Supra* note 6 at para. 42.

activity. A patent owner can obtain “more of a monopoly than the public bargained for” in such a situation.⁷² Thus, claims must be sufficiently clear that the public “will be able to know not only where it must not trespass but also where it may safely go.”⁷³ As the Court has held, both clearly drafted claims and the availability of a mechanism whereby claims can be accurately construed are of the utmost importance to achieve balance.⁷⁴

Unfortunately, clearly drafted claims are often the exception rather than the norm. Clearly drafted patent claims will state “distinctly and in explicit terms the things or combinations that the applicant regards as new and in which he or she claims an exclusive property or privilege....it is the claims and claims alone that define the monopoly.”⁷⁵ It is a fundamental rule of patent law that claims are not to be written so as to be broader than what was invented.⁷⁶ Claims must be drafted so that they accurately describe the invention, nothing more. However, to claim something less leaves the inventor at a disadvantage, as they will lose out on patent protection.⁷⁷ In the words of the Court, “the usual rule is that what is not claimed is considered disclaimed.”⁷⁸ Thus, patent claims should be drafted to describe an invention distinctly and explicitly.⁷⁹ However, inventors try to push the boundaries of their claims and draft them so as to be less than clear, so as to benefit from vagueness.

A further reason why patent scope may be difficult to ascertain may be blamed on the fact that it is patent agents and not inventors that most often draft patent documents and so it is not the words of the inventor that are normally applied in claims but the wording and formatting

⁷² *Ibid.*

⁷³ *Ibid.* at para. 14 citing *Minerals Separation v. Noranda*, *supra* note 67.

⁷⁴ *Ibid.* at para. 43.

⁷⁵ *Supra* note 13 at §20. See generally, *supra* note 14 at 11.01 (MOPOP); *Supra* note 12 at s. 27(4); and *Patent Rules*, *supra* note 22 at r. 84.

⁷⁶ *Supra* note 13 at §21.

⁷⁷ *Supra* note 40 at 11.

⁷⁸ *Supra* note 7 at para. 42.

⁷⁹ *Supra* note 15 at 11.02.

common to patent agents.⁸⁰ The clarity of claims is not aided by drafting practices commonly applied by patent agents, as “patent drafters seem congenitally unable to employ plain language.”⁸¹ David Vaver provides an example of one patent that included a claim consisting of a single sentence that was 178 words long broken up by only six commas.⁸² Undoubtedly that particular claim would be difficult to construe, a difficulty that is only exacerbated by the fact that patent claims often contain highly technical language.

Of course, the format of claims and their complexity may also be a function of the type of invention being described.⁸³ Some types of invention lend themselves to very complex and arguably convoluted descriptions. Still others conform to set claim formats, such as Swiss⁸⁴ and Markush claims⁸⁵, which are formats intended to facilitate certain scientific inventions, namely medical methods and chemical inventions.

All of the abovementioned factors add to the magnitude of the task of claims construction and help illustrate the crucial role that the skilled reader plays in achieving an appropriate patent interpretation.⁸⁶ Increased reliance on the skilled reader, who is familiar with a field of invention and with the field’s technical jargon, means purposive construction improves the chances that a court will attain a fair understanding of the scope of the claims, which in turn upholds the goal of balance. This aids the court in its role as monitor of the placement and clarity of the fence posts that stake out the protection granted to an invention, or its scope.⁸⁷ Within this fenced area the

⁸⁰ *Supra* note 36 at 221. See also *AT&T Technologies Inc. v. Mitel Corp.* (1989) 26 C.P.R. (3d) 238 (F.C.T.D.).

⁸¹ David Vaver, *Intellectual Property Law: Copyright, Patents, Trade-marks*, (Concord: Irwin Law, 1997) at 141.

⁸² *Ibid.* Unfortunately the offending claim described by Vaver is not exceptional, but is likely in keeping with normal drafting practices.

⁸³ See, *supra* note 15 at chapter 11 generally.

⁸⁴ A swiss claim has the following format: “Use of a compound X for the manufacture of a medicament for a therapeutic application Y.”

⁸⁵ A markush claim has the following format: “A solvent **selected from the group** consisting of alcohol, ether and acetone.” See, *supra* note 15 at 11.11.

⁸⁶ *Supra* note 81 at 142.

⁸⁷ *Supra* note 6 at para. 15.

patent holder is entitled to exclude all others. The purposive construction test allows the courts to achieve the goal of accurate placement of the protective fence by upholding predictability and fairness. “[P]redictability is achieved by tying the patentee to its claims; fairness is achieved by interpreting those claims in an informed and purposive way.”⁸⁸

The skilled reader provides one of the central elements in ensuring the attainment of both predictability and fairness in patent claims construction. Far from acting as a mere technical dictionary, the skilled reader provides the lens through which courts achieve balance in all steps of the purposive construction test. The result of purposive construction is an understanding of the claims that is tied directly to the function of the invention. Claims are not interpreted to be narrower or broader than necessary for the invention to function as the applicant intended.

PART II: The New Role of the Skilled Reader

As discussed above, Canadian courts have long accepted that patent claims ought to be interpreted in light of the knowledge of a skilled reader.⁸⁹ The legal fiction of the skilled reader was born from a fundamental principle of patent law that patent claims are addressed to persons skilled in the particular technical fields – or arts – related to the invention. Thus, patent claims can best be understood through the eyes of the skilled artisan, as solely he or she has the skill and knowledge to interpret them correctly.⁹⁰ The introduction of the purposive construction test has expanded the types of knowledge which the skilled reader is asked to contribute to claims construction. Technical, contextual and legal knowledge all must play a role.

(a) Technical and Contextual Knowledge - The Common Knowledge of the Skilled Reader

In a manner similar to the reasonable person in tort law, the skilled reader is a legal fiction with much legal force. Courts attribute to the skilled reader an important characteristic:

⁸⁸ *Ibid.* at para. 43.

⁸⁹ *Supra* note 30.

possession of knowledge commonly held by a person skilled in a particular field of the invention.⁹¹ Common knowledge has two main components: technical knowledge; and an appreciation of the context of an invention as a whole. More importantly, courts expect skilled readers to apply their knowledge with a mind willing to understand a patent.⁹²

As we noted earlier, the attribution of technical knowledge to the skilled reader permits courts to clarify and fill-in perceived blanks within the content of patent claims.⁹³ The knowledge of a skilled reader may also be brought to bear upon the specification of a patent generally, insofar as an interpretation of the specification will clarify a claim. Certain words within a claim or specification have particular technical meanings that may be known solely by persons skilled in the art. Through the act of conjuring and applying a skilled reader, who is embodied by the testimony of expert witnesses, courts are able to attribute meanings to these words.⁹⁴ While judges may disregard certain evidence of experts as to how a skilled reader would interpret specific claims,⁹⁵ “in practice, courts rely heavily on expert evidence to help them understand how those skilled in the art would have understood the language of the patent at its claim date.”⁹⁶ In the face of conflicting expert evidence, a court must select that which it deems to be closest to the interpretation that a skilled reader would adopt.⁹⁷

In *Free World*, Binnie J. stated that: “[w]ords have layers of significance and secondary meanings.”⁹⁸ A single word may have different connotations and be open to multiple interpretations. Thus, the knowledge and identity of the reader is critical to understanding the

⁹⁰ *Consolboard Inc. v. MacMillan Bloedel (Sask.) Ltd.*, [1981] 1 S.C.R. 504 at 523.

⁹¹ *Supra* note 6 at para 44.

⁹² *Supra* note 36 at §20.

⁹³ *Supra* note 6 at para. 51.

⁹⁴ *Supra* note 30 at para. 24.

⁹⁵ *Supra* note 81 at 140.

⁹⁶ *Ibid.*

⁹⁷ *Ibid.*

⁹⁸ *Supra* note 6 at para. 58.

meaning of words in claims. After all, patents claims are “not addressed to grammarians, etymologists or to the public generally, but to skilled individuals sufficiently versed in the art to which the patent relates to enable them on a technical level to appreciate the nature and description of the invention.”⁹⁹

The new skilled reader is not, however, solely armed with technical knowledge. The fictional person skilled in the art brings an understanding of the invention as a whole and reads the claims in a manner that makes it workable. In basic terms, the skilled reader appreciates the nature and description of the invention as to how the elements function together and therefore understands its context. “Knowledge of purpose is one of the important attributes the skilled worker brings to the exercise” of claims construction.¹⁰⁰ According to *Whirlpool*, “the notional skilled workman would understand perfectly well the purpose of the [invention] and could therefore be expected to apply the teaching of the patent by sensibly choosing components suitable for that purpose.”¹⁰¹ Reliance on the skilled reader thus ensures that patent claims are interpreted by courts not only in a technically correct manner, but so as to take into account the function of the invention and its intended use as well.

Taking the point of view of the skilled reader, rather than that of (scientifically) lay judges, helps courts ensure that patent claims sufficiently protect the economic interests of the patent holder and are not interpreted overly broadly so as to constitute a public nuisance. The context in which an invention exists must be appreciated by the courts in order for them to properly identify the fenceposts that patent claims set out. Skilled readers aid this process by

⁹⁹ *Supra* note 7 at para. 53.

¹⁰⁰ *Ibid.*

¹⁰¹ *Ibid.*

accurately identifying the scope of a patent upon its wording. As Lord Russell of Killowen stated in *Electric and Musical Industries Ltd. et al v. Lissen et al*¹⁰²:

The prima facie meaning of words used in a claim may not be their true meaning when read in the light of a such a dictionary or of such technical knowledge; and in those circumstances a claim, when so constructed, may bear a meaning different from that which it would have borne had no such assisting light been available.¹⁰³

The court thus acknowledged that mere technical understanding is not enough to construe claims accurately contextual knowledge is required. By invoking the skilled reader the courts have created a three-dimensional fiction willing to provide a rounded interpretation of patent claims.

As has been discussed, an important aspect of purposive construction is differentiation between essential elements of a patent claim and nonessential elements by a skilled reader which is required by the Court to ensure fairness and balance between the patentee and the public.¹⁰⁴ Neither the language applied in claims nor that of the specification need to specifically characterize an element of a claim as being essential or non-essential. It is the court, through invocation of the skilled reader, which carries out the triage. A process or product containing all of the essential elements of the claims of a patent will be found to be infringing. Whether the process or product includes some or none of the nonessential elements is non-material to an infringement analysis. This measure of infringement provides fairness to the patent holder by ensuring that processes or products that incorporate mere insignificant changes to the patented invention, but include all of its essential elements, do not escape liability for having infringed a patent.

¹⁰² (1939) 56 R.P.C. 23 (H.L.) at 39.

¹⁰³ *Ibid.*

¹⁰⁴ *Supra* note 6 at para. 15.

To differentiate essential and nonessential elements, the skilled reader must understand the purpose of the invention in light of his or her technical knowledge.¹⁰⁵ Interpretation of technical terms in a vacuum is not sufficient. Contextual knowledge is required of the skilled reader.

As we accept that purposive construction broadens the scope of knowledge required of a skilled reader, we must also note proscribed limitations. In *Whirlpool* the Court established that the skilled reader is expected to have access only to knowledge that is generally held amongst persons working in the same trade. “Inside” knowledge gained through extraordinary dealings or business positions within an industry is considered to be beyond the scope of common knowledge.¹⁰⁶ Knowledge that is beyond the ordinary knowledge that a skilled worker may be expected to have should not, therefore, be imputed to the fictional skilled reader.¹⁰⁷

It has also been established that the bounds of common knowledge may vary from trade to trade. While no court has clearly defined “common knowledge” it is generally held to be “the ordinary amount of knowledge incidental to a particular trade.”¹⁰⁸ The Court widened the field of “ordinary knowledge” in *Whirlpool* in two respects. First, it stated that what is considered to be ordinary is not uniform as it “will, of course, vary with the subject matter of the patent.”¹⁰⁹ Second, the Court determined that a skilled reader is expected to keep him or herself informed of developments in the art on an ongoing basis.¹¹⁰ Common knowledge is ever evolving and growing. Putting these two elements together, we can see that levels of technical and contextual knowledge are likely to vary between trades and therefore amongst groups of skilled readers. Thus, we can assume that what is common knowledge to a mechanical engineer may well differ

¹⁰⁵ *Supra* note 90 at 523 and affirmed by the Supreme Court of Canada in *Free World*, *supra* note 6 at para. 52.

¹⁰⁶ *Supra* note 7 at para. 70.

¹⁰⁷ *Ibid.* at para. 71.

¹⁰⁸ *Supra* note 90 at 523.

from that of a chemist. Each skilled reader is engaged in a different area of science or art and thus we can expect him or her to draw from a different well of knowledge and skill.

The *Burton Parsons Chemicals Inc. v. Hewlett-Packard (Canada) Ltd.*¹¹¹ decision exemplifies a skilled reader in action. In *Burton Parsons* the Court invoked the skilled reader to eliminate unsuitable elements from the literal language of the claim.¹¹² The relevant claims read over a class of chemicals effective in creating conductive creams used in electro-cardiography. Many of the chemicals falling within that class were, however, toxic to human patients making them unsuitable for the purpose of the invention. The Court held that a skilled reader, understanding the technical aspects of the invention and the context in which it functioned, should be expected to construe the claims to exclude unsuitable chemicals. Reading claims to avoid unsuitable elements was said by the Court to be “a task which any man skilled in the art ought to be able to perform without having to be told because any unsuitability depends on well known properties.”¹¹³ Thus, the Court in *Burton Parsons* attributed to the skilled reader an appreciation of the context of the invention and expected him or her to impute this knowledge into claims construction without prompting.

The Court in *Whirlpool* described *Burton Parsons* as “an instance of purposive construction where, as in *Catnic* itself, the skilled addressee made sense and purpose of the words used in the claim by deploying the common knowledge of someone in that position.”¹¹⁴ Contextual understanding of the skilled reader is described by the Court as “knowledge of purpose [which] is one of the important attributes the skilled worker brings to the exercise.”¹¹⁵

¹⁰⁹ *Supra* note 7 at para. 71.

¹¹⁰ *Ibid.* at para. 74.

¹¹¹ (1974), 54 D.L.R. (3d) 711.

¹¹² *Ibid.* at 563.

¹¹³ *Ibid.* at 566.

¹¹⁴ *Supra* note 7 at para. 53.

¹¹⁵ *Ibid.*

Moreover, courts acknowledge that they may use the skilled reader of purposive construction to not only read down claims, as in *Burton Parsons*, but to enlarge the scope of claims beyond a layperson's reading of the claim language.¹¹⁶

Although both *Free World* and *Whirlpool* address mechanical inventions, purposive construction will likely find its most innovative application in respect of newer technologies such as biotechnology and information technology. These technologies possess characteristics that differentiate them from their mechanical counterparts – the pace of innovation, patenting undertaken at an upstream stage in the research cycle and the shortness of their useful lives. They also differ from other patentable subject matter in terms of their impact on social concerns such as access to health care, access to information, and their effect upon the environment and human health.

These differences between new technologies and the mechanical arts will put to the test the Court's holding that the definition of common knowledge of a skilled reader may vary according to the subject-matter of the invention. Thus, one can expect that the manner in which courts apply patent law to, say, steel will differ from the way they apply it to plants.¹¹⁷ One would also expect that the way patent law applies to a technology today, say information technology, will differ from the way it applies to that trade in the future as the context of related inventions changes. This must be true if the evolving nature of scientific and technical knowledge in a field of art is judicially recognized.

It is important to emphasize that the role we believe the Court accorded to the skilled reader in bringing his or her own understanding of the art of the patent into the construction of

¹¹⁶ *Ibid.* at para 49(h). The Supreme Court of Canada acknowledges that this opinion is also shared by Carol Hitchman, *supra* note 36 at 202.

¹¹⁷ This point was the subject matter of an exchange between Arbour J. and counsel for Monsanto in *Monsanto*.

patent claims differs significantly from a construction based on the ‘spirit’ of the invention.¹¹⁸ That is, nothing we suggest above is designed to put words into the mouth of the patentee. Rather, what we suggest is that the skilled reader will read a claim as it is written in light of an understanding of the context and function of the invention as a whole. By reading the claim in the context of the purpose of the invention, the skilled reader will be able to identify the essential elements of the claim that set the scope of the patent as well as any limits on the patentee’s exclusionary right.

To summarize, the Court’s emphasis on balance and on context implies that the boundaries of what is considered to be common knowledge extends well beyond technical understanding of individual words or components. A skilled reader is expected to account for the context of the invention as a whole in a claims construction exercise. Accepting that common knowledge of a skilled reader includes contextual understanding ensures that the scope of patent claims pronounced by a court is neither excessive nor overly narrow. Absent context, it is simply impossible to determine the fairness of the construction of a particular claim as the construction will amount to no more than an arbitrary attempt to balance interests of an inventor, users and society.

(b) Legal Knowledge - The Skilled Reader and Non-Patentable Subject-Matter

Besides technical and contextual knowledge, the purposive construction test also implies that a skilled reader must, in the context of some arts, bring a level of legal understanding to the exercise. Justice Arbour, in her dissenting opinion in *Monsanto*, stated that a skilled reader “must also be taken to know the state of the law as it relates to the subject matter of his or her

¹¹⁸ The “spirit of the invention” is a general understanding of what the inventor was attempting to protect by way of the patent. This notion goes beyond the written component of a patent to encompass what the inventor intended to claim. On occasion reliance upon the spirit of the invention will cause elements to be read into claims despite

invention.”¹¹⁹ She further noted knowledge of patent law is necessary to draft claims of “extreme precision” that will withstand validity challenges.¹²⁰ Thus, in order to accurately construe patent claims, a skilled reader must possess not only technical expertise, but a level of legal knowledge sufficient to understand patent claims as they are drafted. This being said, it is worth noting that a broad or wide-ranging knowledge of patent law is likely not essential for a skilled reader. A skilled reader is merely required to have a general understanding of patent law as it relates to claims drafting and his or her area of technical expertise.

As an example of the level of legal knowledge required of a skilled reader one could expect that a skilled reader would know to read down elements in a claim so as not to include non-patentable subject matter. This is particularly true for the life sciences in which recent decisions have established limits to what constitutes patentable subject matter. Non-patentable subject matter is generally defined as broad categories such as higher life forms, algorithms, a process of surgery to be performed upon humans, and seeds. These categories are defined either by statute or jurisprudence.¹²¹ Due to the existence of articulated broad categories, understanding what constitutes patentable subject matter may in some circumstances require only minimum legal knowledge. Knowledge that is generally understood within a trade community and can therefore be expected of persons skilled in the relevant arts. One must differentiate this general knowledge about which classes of inventions are not patentable from specific knowledge of whether a particular invention falls within a class of non-patentable subject matter. While the

flaws in the language employed in the patent. Reference to the spirit of the invention is an accepted element of claims construction in the U.S.

¹¹⁹ *Supra* note 9 at para. 126.

¹²⁰ Justice Arbour relied on the decision of Mahoney J.A. in *Lubrizol Corp. v. Imperial Oil Ltd.*, [1992] 98 D.L.R. (4th) 1 (F.C.A.) at 18 in making this point.

¹²¹ For example, section 27(8) of the *Patent Act*, *supra* note 12, sets out that a scientific principle or abstract theorem is non-patentable subject matter, whereas the Court in *Harvard* held that higher life forms are non-patentable subject matter.

former knowledge can be attributed to someone skilled in the art, the latter is a legal determination requiring significant expertise.

The House of Lords decision in *Kirin Amgen v. Hoechst Marion Roussel Ltd.*¹²² provides an example of a skilled reader able to understand that a patent claim cannot encompass non-patentable subject matter, despite the apparent breadth of the claim language. The court in that case accepted the construction applied by the English Court of Appeals which determined the broadly worded claim over the gene provided a monopoly uniquely for an isolated form of the gene. In the words of the Court of Appeals:

As we have said, the basis of the invention is the discovery and sequencing of the EPO gene. The patentee could not monopolise the gene per se as that existed in nature. The patentee therefore monopolised the DNA sequence encoding of the DNA when isolated and in that respect was suitable for use to express EPO in a host cell. As of 1984 such a monopoly would have seemed to give fair protection. To seek to monopolise use of the sequence when not isolated by inserting a construct into a human cell would provide a monopoly not properly supported by the description in the specification. We also believe that third parties could reasonably expect that if they did not use a DNA sequence for insertion into a host cell, there would be no infringement.¹²³

Despite some confusion at the Supreme Court of Canada,¹²⁴ this is a pivotal decision as it clearly ties patent scope to a supportable monopoly. Extending patent protection to humans which

¹²² [2004] UKHL 46.

¹²³ [2002] EWCA Civ. 1096 at para. 60.

¹²⁴ The majority of the Supreme Court of Canada in *Monsanto*, *supra* note 9, determined that the English Court of Appeal decision in *Kirin Amgen*, *ibid*, was not relevant to the case. The majority did so on the misimpression that *Kirin Amgen* was decided on the basis of specific European law that has no Canadian parallel, namely Article 5 of the Directive 98/44 of the European Parliament and of the Council of July 6, 1998 on the Legal Protection of Biotechnological Inventions, OJ L (1998) No L213 (the “Directive”). The Directive merely reiterated existing patent law that the discovery of an element of the human body, including a gene sequence, is not patentable whereas an isolated gene is patentable. E. Richard Gold & Alain Gallochat, “The European *Biotech Directive*: Past as Prologue” (2001) 7 *European Law Journal* 328 at 344. Canadian law, as presently articulated, is in complete accord with Article 5. Further, even if Article 5 were different, it had no bearing on the decision in *Kirin Amgen* because the Directive was not only not in force but not even contemplated at the time that the patent at issue in *Kirin Amgen* was filed. Furthermore, the Directive says nothing about the determination of patent scope, which was the question at issue in *Kirin Amgen*. Thus, the English Court of Appeal in that case thus based its decision on existing patent law, namely the rules relating to claims construction. Moreover, the *Camic* purposive construction test was accepted by the House of Lords *Kirin Amgen* decision as the correct means of claims construction and held to be in compliance with the *Protocol on the Interpretation of Article 69*, *supra* note 122 at para. 48. This finding by the House of Lords further dispels the misgivings of the Supreme Court of Canada voiced in *Monsanto* as it affirms that

contain certain cells, is a misapplication of patent scope. The House of Lords clearly determined that patent monopolies must be based upon the claims and the specification of the patent in accordance with purposive construction. Thus, extending patent protection to subject matter beyond the scope of the claims, especially matter which is non-patentable, is not supportable.

As has been discussed, interpreting claims so as to only provide protection over the invention, and thus only grant an inventor rights in a well-defined monopoly, is crucial to balance.¹²⁵ After all, a patent is a form of public notice as to the limits of the monopoly rights granted by society to the inventor. Purposive construction, and in particular the claims interpretation conducted through the assistance of the skilled reader, overcomes the potential for gross imbalance. In some cases a skilled reader must bring legal knowledge to their task in order to achieve an accurate construction.

Looking at this in context we find that, while no one could reasonably expect a skilled reader to have at hand a high level of legal expertise, a reasonable person skilled in the life sciences would know that animals do not, for example, constitute patentable subject matter. Similarly, someone skilled in the software trade would know that pure theorems are not patentable. We can safely ascribe this knowledge to skilled readers as they would need, in practice, to have this basic understanding of what can and cannot be patented to secure protection for their inventions. However, a skilled reader would not necessarily know whether a particular invention constitutes a pure theorem as defined by jurisprudence. This determination is too contextual, specific and technical in a legal sense to be made by the skilled reader.

the claims construction applied in *Kirin Amgen* is that which is to be implemented throughout Europe. For this reason, the decision in *Kirin Amgen* is not only relevant but an authoritative source for our discussion on claims construction. We note that the dissenting opinion in *Monsanto* relied on *Kirin Amgen*.

¹²⁵ *Supra* note 7 at para. 42.

We can now return to the premise of *Burton Parsons*: that a skilled reader can and should be expected to impute his or her knowledge that certain elements of the literal claim are unsuitable and should be read out of a claim.¹²⁶ Clearly unpatentable subject matter would be considered unsuitable and therefore a skilled reader should be expected to exclude these elements when construing a claim and to do so without prompting. That is, a court viewing the claims through the eyes of a skilled reader would attempt to construe the claims so as to be valid. Valid claims cannot encompass non-patentable subject matter.

This approach differs from that applied by US Courts where purposive construction has not been adopted and literal/substantive claims construction is utilized.¹²⁷ The Court in *State Street* held that claim construction should recognize that otherwise non-patentable subject matter, such as natural phenomena or an abstract idea, may be validly claimed if it is integrated as an element of an invention.¹²⁸ We argue that this approach fails to tie a patentee to his or her claims and may thwart fair and predictable construction. Interpreting a claim to read upon non-patentable subject matter is tantamount to extending the scope of the patent to elements that it could not rightly protect at law. The patent holder is thereby overcompensated.

The role of the skilled reader in purposive construction overcomes this challenge. Where a court can read down the literal language of a claim to ensure that it does not encompass non-patentable subject matter, it can be expected to do so. In other words, the interposition of the

¹²⁶ *Supra* note 111 at 719.

¹²⁷ Literal infringement involves two questions: 1) have the claims been properly construed so that their scope is accurately determined; and 2) do all of the limitations of the construed claims exist in the accused process or product. Whereas substantive infringement “may be found if the accused device performs substantially the same overall function or work in substantially the same way to obtain substantially the same overall result as the claimed invention.” (*Supra* note 36 at 196.) U.S. claims construction also differs from the Canadian purposive construction test in that courts permits external aids, such as prosecution history (or file wrapper) which is a record of dealings between a patentee and the Patent Examiner, as well as notions such as the “spirit of the invention” (see note 115).

¹²⁸ *Supra* note 5 at 1374, included in footnote 6.

skilled reader permits the courts to eliminate from the claim – to the extent that the words of the claim and context of the invention can support such a reading – non-patentable subject-matter.

Kirin Amgen provides an example of the invocation of a skilled reader with a low level of legal knowledge to construe patent claims. The invention at issue identified the amino acid sequence of EPO as well as the nucleotide sequences that coded for human EPO, with the result that EPO could be produced by way of known genetic engineering methods.¹²⁹ As in Canadian law, in accordance with *Catnic*, English law relies on the skilled addressee to construe the patent claims.¹³⁰ The House of Lords determined that the skilled addressee would require an understanding of the basics of DNA and the techniques of recombinant technology¹³¹ as well as knowledge “of the basic principles of patentability”.¹³² Thus, when interpreting the scope of the claim, the skilled reader is to apply some understanding of patent law.

Again we must stress that we are not suggesting that a skilled reader must always possess legal knowledge. Legal knowledge will be more readily a part of the common knowledge of a person skilled in some arts than in others. Factors that may affect whether legal knowledge is part of the common knowledge of the skilled reader include the commercial importance of patents in the particular field and the level of competition between inventors to obtain patents.

Because “monopolies are associated in the public mind with higher prices,”¹³³ it is in the public interest that “the patent monopoly should be purchased with the hard coinage of new, ingenious, useful and unobvious disclosures.”¹³⁴ The high commercial value of some patents cannot be understated. Patents can lead to revenues in the hundreds of millions of dollars for

¹²⁹ *Supra* note 122 at paras. 9 & 68-69.

¹³⁰ *Ibid.* at para. 34.

¹³¹ *Ibid.* at paras. 54-58.

¹³² *Ibid.* at para. 78.

¹³³ *Supra* note 11 at para. 37.

¹³⁴ *Ibid.*

their holders.¹³⁵ Inventions in the areas of pharmaceuticals, biotechnology and e-commerce, in particular, represent growing areas for patent protection. Obtaining a patent is likened to winning a “high-stakes race”¹³⁶ with important effects for corporate earnings and the conduct of scientific research. Ownership of patented inventions can be a critical factor towards attaining success in the marketplace.¹³⁷

All of this means that, in areas such as genetic technologies or information technology where patent rights are important and have significant commercial value, a skilled reader would be generally aware of the basic tenets of patent law, such as what subject-matter fits within the definition of patentable subject matter, and would interpret patent claims accordingly. Denying the skilled reader technical, contextual and legal knowledge risks the misapplication of the purposive construction test with serious adverse consequences. As previously noted, patent claims construction provides the basis for both validity and infringement proceedings. Considering the high market value that many new technologies represent, both in terms of cost per unit and the value of the exclusionary rights over an invention, any misapplication of purposive construction will likely be financially devastating to the parties involved. Moreover, a misapplication would grossly overcompensate either the patentee or society and thus tilt the balance unfairly. Such a result runs counter to the Canadian judicial refrain that patent law must ensure an appropriate and fair economic outcome.¹³⁸

¹³⁵ *Ibid.* at para. 35.

¹³⁶ Don Cameron & Mark Davis, “Patents on Bay Street?” *The Globe and Mail* (24 August 2001), online: The Globe and Mail <http://www.globetechnology.com/servlet/RTGAMArticleHTMLTemplate/D/20010824/gtcameronJuly18?tf=RT/fullstory_Tech.html&cf=globetechnology/techconfigneutral&slug=gtcameronJuly18&date=20010824&archive=RTGAM&site=Technology>.

¹³⁷ Sean Collins & Jeffrey Carhart, “E-Commerce in Transition: Some Insolvency Issues” (2001) 13 *Comm. Insol.* R. 68 at 1.

¹³⁸ The Court has not, admittedly, been consistent. This is particularly true in *Monsanto* where the Court invoked a doctrine of expansive scope through its discussion of the definition of the term “use” in the context of infringement. Ultimately the Court found that “use” most particularly invokes commercial interests or exploitation: “a defendant’s commercial activities involving the patented object will be particularly likely to constitute an infringing use. This is so because if there is a commercial benefit to be derived from the invention, a contextual analysis of s. 42 indicates

The skilled reader provides a perfect blend of legal knowledge, contextual understanding, and the technical knowledge. A court with only legal knowledge will be unable to appropriately read down or broaden claims due to its lack of understanding of technical terminology. Similarly, a narrow technician may interpret a patent claim so as to read upon non-patentable subject-matter, putting in jeopardy the protection required by inventors in this field. The skilled reader will, by contrast, rely on her or his technical, contextual and legal knowledge to avoid both of these errors. Assistance from the skilled reader is key to achieving accurate purposive construction. The skilled reader can achieve what neither the court alone nor the technician alone can: balance, fairness and predictability.

(c) Genetic Technologies

Looking to one particular art, genetic technologies, we can assess the importance of technical, contextual and legal knowledge of the skilled reader in the application of purposive construction and the ultimate attainment of balance. Genetic technologies, including DNA sequences and whole genes, present interesting challenges to patent law, most notably relating to

that it belongs to the patent holder.” *Supra* note 9 at para. 38. The Court felt it appropriate to articulate a doctrine of expansive patent scope where the invention plays an “important role in production” so as to cover not only the patented invention itself but the broader structure or process in which the invention is encapsulated or incorporated. *Ibid.* at para. 42. In doing so in *Monsanto*, the Court extended patent protection to non-patentable subject matter, namely a plant made up of patented genes. *Ibid.* at para. 43. Justice Arbour, in her dissent, pointed out that the majority failed to provide any authority to support its expansion of patent scope to effectively cover non-patentable subject matter. All of the examples provided by the majority to support such an expansive doctrine related to patentable subject matter (*e.g.* zippers, tires and lego blocks). In particular, she stated that:

[T]here is 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. *Ibid.* at para. 156.

When a court invokes an expansive doctrine, as was done in *Monsanto*, to broaden infringement protection beyond the patent claims, the chance for error becomes more acute. The economic power that a patent holder wields over an invention – in the form of patent rights – can be substantial. The role of the skilled reader is therefore crucial to ensuring that balance is achieved through the assertion of a correct and accurate determination of patent scope

patent claim construction.¹³⁹ It is here that courts will face the choice of either applying patent law in a pre-*Free World* mechanical fashion – that is, by ignoring context, in particular – or to take the Supreme Court of Canada seriously by construing DNA sequence patents in a manner that takes into account the nature of genetic research and the ways in which DNA technology is used in practice.¹⁴⁰

i. A Purposive Construction of DNA Sequence Patents

While the particular construction of a DNA sequence patent claim would obviously depend on the wording of the claim and the particular context in which it was developed and meant to be used, we can at least suggest how a purposive construction of a DNA sequence claim may differ from a mechanical or solely literal construction.

Consider, for example, a claim over a DNA sequence representing a human gene that is claimed, on credible grounds, to be associated with a certain disease when mutated. A literal construction would establish the fences around this claim fairly broadly, encompassing any substance that included this sequence. Thus, the claim would cover the DNA sequence both in a test-tube and in a human body. It would prevent the use of the sequence in conducting both diagnostic tests and in the use by police forces of DNA ‘fingerprinting.’ It would prevent the use

¹³⁹ DNA sequences represent portions of an organism’s genetic material. While our understanding of the functions of and exact mechanisms associated with this material is evolving, DNA contains information used by cells to produce proteins. Scientific interest in DNA focuses on unlocking this information to better understand human, animal and plant biology. A court seeking to attain a balance of patent rights would need to endow a reader skilled in the art of genetics with not only a technical knowledge of genetics, but also an understanding of how genetics research is conducted and how genetic innovations are used. Both represent knowledge that falls into the category of ordinary knowledge that a person skilled in the art of genetic technology would be expected to possess. Without an understanding of genetic research and innovations, the skilled reader would be at a loss to determine whether a particular reading of a DNA sequence claim was fair and predictable. Instead, a skilled reader may lead a court to either over or under-protect the inventor to the detriment both of that inventor and society.

¹⁴⁰ Genetic research and the use of genetic technology represents important challenges to our understanding of biology, to scientific innovation and to the use of this technology. The challenges cover a vast series of questions involving areas of philosophy, biology, innovation management, economics and social policy concerning health care and agriculture. Gene technologies often encompass basic knowledge that underlies vast fields of scientific endeavour. This may include personal health information. There are no substitutes for a gene, which causes genetic innovation to be unlike other fields of invention, such as mechanical products. Scientific development in the

of the sequence in further scientific research (subject to the possible existence of a research exemption in Canada), whether aimed at understanding the basic biology of disease, the development of methods to detect the disease or the development of new pharmaceutical products to treat or control the disease. That is, a solely literal reading of the claim would cover not only one field but many, not only commercial uses, but scientific and investigative as well. This effect would not be limited to competitors, but would extend to patients as well. Such a reading of the DNA sequence claim can hardly be considered balanced or contextual.

By endowing the skilled reader with not only technical knowledge, but with an understanding of context, a court relying on the skilled reader would interpret the DNA sequence claims quite differently. The skilled reader would, of course, start with the language of the claim and a technical knowledge of genetics. Such a skilled reader would understand the contested nature of what is a gene and its function in the body. The reader would similarly understand the many uses to which the sequence can be put both in terms of scientific investigation and in the health care system. While the skilled reader would stay away from general debates over the wisdom of DNA sequence patents or of the health care system in general, the reader would understand how different interpretations of the claims would affect the balance between inventors, technology users and society. Most importantly, the skilled reader would understand how the invention functions and how claims must be read in order to simultaneously support that function and limit the patent scope so that the patent holder for the invention is not overcompensated. That is, the skilled reader would bring his or her knowledge of context to meet the objective of patent law – to attain balance.

genetics field depends on access to many DNA sequences, making innovation management to be of particular concern the field of genetic innovation.

The skilled reader would also be aware of the injunction against patenting basic knowledge and would have an understanding of patentable subject matter. Thus, the skilled reader would recognize that while many aspects and uses of a DNA sequence will have no harmful effect on access to basic knowledge – such as the commercial manufacture of the molecules to sell in bulk – a broad reading of the claims will encompass basic knowledge. A skilled reader would read the claim to exclude this knowledge. Therefore, the skilled reader would hold that raw DNA sequence information, whether stored on a computer disk or otherwise, cannot be patented. Second, we believe that the outcome of a skilled reader’s interpretation of DNA patents would be to allow a patient, with the assistance of his or her physician, to gain access to the personal health information contained in that individual’s own DNA without violating the patent. Finally, in order that the claim does not read upon non-patentable material, the skilled reader would recognize that the DNA sequence as it exists in the human body cannot be included in the claim. This is because the sequence in the body would not be novel.¹⁴¹

The agricultural sector provides another example of the danger of reading patent claims too broadly. The Canadian Intellectual Property Office has clearly stated that plants and animals are non-patentable subject matter.¹⁴² The Supreme Court of Canada agreed with this conclusion in *Harvard College*. One would thus expect that a skilled reader would approach patent claims over animal or plant DNA sequences or cells with this knowledge in mind. In particular, as was the case in *Kirin Amgen*, one would expect that the skilled reader would construe such claims as

¹⁴¹ This last piece of knowledge, that a human body cannot be read into a claim echoes the *Kirin Amgen* decision that a claim over a gene could not be read to extend to a human body containing the patented gene. The dissent in the Supreme Court of Canada *Monsanto*, *supra* note 9, decision adopted a similar application of *Kirin Amgen* at para. 127. They found that the English Court of Appeal “narrowed a patent claim over a naturally occurring DNA sequence (EPO gene) so that it excluded that DNA sequence in its natural and therefore unpatentable form,” which was in keeping with the correct application of a skilled reader.

¹⁴² *Supra* note 15 at 16.04.

limited so as not to extend to entire plants or animals containing these sequences or cells.¹⁴³ The logic behind this is as follows.

Construing a claim to read upon an element that was not included within the claim – much less an element that does not constitute patentable subject matter – is to distort the purpose of purposive construction. The goal of predictability, whereby a patentee must be tied to his or her claims, cannot be achieved if claims are construed so broadly. This is so for two reasons. First, it ignores context. As Justice Arbour noted in *Monsanto*, the very nature of plants and animals and the fact that they are self-replicating must be considered in the context of the invention.¹⁴⁴ When we extend claims over genes or cells to entire plants, the court effectively gives the patent holder rights over naturally occurring plants that happen to breed with the engineered variety. Second, it is inconsistent to hold, on the one hand, that plants are not patentable subject-matter while on the other effectively extending patent protection over plants. Interpreting gene or cells patent claims to cover entire plants distorts patent law's goals of predictability and fairness. Reading non-patentable subject matter into a patent claim blurs the lines of patent protection upsetting the balance by overcompensating patent holders in a manner that is unfair to the public.¹⁴⁵ The revitalized skilled reader described in this article can assist the courts by helping them avoid the distortion of patent monopolies.

¹⁴³ It is vital that a skilled reader be invoked in this manner in light of the risk of applying an expanded doctrine in the context of an infringement action. In particular, such a doctrine may be used to extend infringement protection beyond the patent claims to include objects that incorporate an invention, such as a plant comprised of patented genes. If the initial determination of the scope of a patent claim is flawed the repercussion of such an error may have wide implications. Correct application of a skilled reader wards against future negative results.

¹⁴⁴ *Supra* note 9 at paras. 130, 137 and 156.

¹⁴⁵ Given this analysis, it is particularly surprising that the majority in the Supreme Court of Canada failed to invoke the skilled reader in interpreting the patent claims in *Monsanto*. The Court asserted that the meaning of the patent claims were “largely uncontroversial” and thus engaged in only a cursory purposive construction of Monsanto's claims. *Ibid.* at para 15. As the dissenting opinion made clear, the scope of the claims is far from obvious and requires the all the skills of the skilled reader. Given the fact that the Court sidestepped a thorough purposive construction, it remains unclear how a skilled reader would actually construe claims over DNA sequences and other biological matter.

We recognize of course, that this last argument seems to run counter to the majority's holding in *Monsanto*. We note, however, that the Court explicitly put to one side questions of patent scope,¹⁴⁶ saying that the question of scope was "largely uncontroversial".¹⁴⁷ The majority's decision was based on interpreting what constituted a "use" of an invention, thus leaving it to a future court to squarely address the question of patent scope as we propose above. We suggest that a court that squarely addressed the question of patent scope following a purposive construction and the House of Lords decision in *Kirin Amgen* would avoid the problems involved in the *Monsanto* case.

(d) The Skilled Reader as a Policy Tool

A further benefit of endowing a skilled reader with technical, contextual and legal knowledge is that this enables the courts to evolve policy with respect to new technologies that takes into account both scientific development and an increasing understanding of markets and market failures. This benefit is especially important given the present-day notable absence of any Parliamentary will to provide a clear policy framework through which to understand how patents apply to emerging technologies. In the course of both the *Harvard College* and *Monsanto* decisions, the Supreme Court of Canada noted Parliament's failure to provide guidance in certain areas of patent law, including a refusal to address "policy arguments about the particular dangers of biotechnology inventions."¹⁴⁸ As pointed out by the Court, the *Patent Act* itself does not provide any guidance or direction regarding how patent law is to evolve in order to take into account specific challenges posed by new technologies.

In the absence of legislated policy, the courts have no choice but to engage in policy formation. Decisions to patent or not to patent particular forms of invention, the scope given to a

¹⁴⁶ *Ibid.* at para. 2.

¹⁴⁷ *Ibid.* at para. 15.

particular claim, and limitations placed on rights to exclude are all inherently policy in nature.¹⁴⁹ Courts can either develop policy in an *ad hoc* and largely incoherent manner or they can invoke the legal fiction of the skilled reader to limit and make transparent the policy choices formulated.

By explicitly addressing the skills and knowledge that the skilled reader possesses, a court construing a patent claim must explicitly reference all of the following: the state of knowledge that exists; the ways in which technology is used (the purpose of the invention); and limits imposed by law. Through the skilled reader, the court can ask how someone with experience in an art or science would understand how technology is actually used in practice and thereby avoid stifling monopolies while providing a sufficient economic return to induce innovation. Parliament itself has neither the time nor the resources to continuously update all of its laws to ensure that their policy choices remain relevant. The most Parliament can achieve is to set out broad directives in respect of particular types of technology. The invocation of the skilled reader can fill the gap left by Parliament by providing a framework through which courts can continue to expand on Parliament's basic policy choices to adapt patent law to changes in technology and in the use of technology.

The role of a skilled reader as a policy tool has not been explored by either the courts or the government as of yet. Moreover, as technology continues to develop at an increasing pace the call for Parliament to articulate guidelines and directives relating to certain fields of innovation is becoming more pronounced. Parliament has refrained from reacting to these calls, to the obvious frustration of the Court agitated by the fact that patent policy arguments increasingly come before it, as illustrated by *Harvard College*¹⁵⁰ and *Monsanto*.¹⁵¹ The arrival on the scene of the

¹⁴⁸ *Ibid.* at para. 95.

¹⁴⁹ Gold and Gallant, *supra* note 124.

¹⁵⁰ *Supra* note 10 at para. 53.

¹⁵¹ *Supra* note 9 at paras. 97 and 98.

revamped skilled reader should provide some comfort to the public, the courts and Parliament. The use of the skilled reader permits the adaptation of patent law in a flexible yet transparent manner that at once ensures the continued relevance and functioning of patent law with the ability to adapt the law to take into account the particularities of new technologies such as biotechnology and information technology.

CONCLUSION

Purposive construction aims to achieve a fair and predictable scope of patent protection. The Supreme Court of Canada selected the skilled reader as the correct means of attaining this objective. While reference to a skilled reader in claims construction is not a new phenomenon, the Court has greatly enlarged the importance of the role of the skilled reader towards attaining balance. By endowing the skilled reader with a mixture of technical, common and legal knowledge, the Court has placed the skilled reader at the heart of claims interpretation. In other words, the Court has made the skilled reader integral to meet the objectives of the *Patent Act*.

Clearly understood patent claims allow for the attainment of balance between the public and inventors. Uncertainty as to the scope of a patent allows for imbalance either towards the inventor, if a patent is interpreted too broadly, or the public, if a patent is given an excessively narrow interpretation. There is no one better placed than a skilled reader to truly understand the implication of a patent and to be able to assess its scope. This is particularly true as a skilled reader brings a level of common knowledge requisite to their trade. Thus, common knowledge is not a static standard, but is responsive to particular trades and to changes within technologies caused by advancement.

By interposing the skilled reader in the process of claims construction, especially in such a prominent manner, the Supreme Court of Canada has indicated that patent law is no longer a

‘one-size-fits-all’ set of rules. Given the importance of patents to society, the Court has recognized that flexibility and context are crucial to the continued viability of the patent system. Nevertheless, the skilled reader permits the introduction of flexibility without the cost of arbitrariness or discrimination between technologies. Patent law remains non-discriminatory – in the sense that the same goals and general approach apply to all technologies – while retaining flexibility in its application to the nature of particular technologies.

The Supreme Court of Canada’s revamping of the skilled reader and her role in patent law ought to be welcomed and embraced by all those concerned about patent law. It ensures the continued viability of the patent system and the certainty required by industry while making certain that the interests of technology users and society are met.