Is it Obvious?

A REVIEW AND CRITIQUE OF THE NON-OBSVIOUSNESS PATENT REQUIREMENT

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ABSTRACT

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A patent is often characterized as a bargain between an inventor and society. Generally, for a patent to be considered valid, an invention must satisfy three broad criteria: it must be new, useful, and non-obvious. This paper focuses on the requirement of non-obviousness. It explores the criterion from inception to its current state and suggests a potential refinement. A multi-jurisdictional snap-shot is presented focusing on the United Kingdom, Australia, the United States, and Canada. It is submitted that the non-obvious prerequisite contains a problematic level of uncertainty. The law of obviousness lacks a baseline standard. To achieve certainty, it is suggested that the law adopt the principles pertaining to patenting combinations and aggregates. Ultimately the law of patents, inclusive of the doctrine of obviousness, must be fashioned and administered in a manner that respects the quid pro quo that has guided the law for many years.
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INTRODUCTION

Intellectual property laws are the laws that protect creations of the mind.\(^1\) Over time, intellectual property has increased in relevance and has become the “new wealth of the twenty-first century”\(^2\). Within the broad panoply of intellectual property laws is the law of patents. Patent law is increasing in importance. In 2010, an all-time high of approximately 1.98 million patent applications were filed around the globe.\(^3\)

One of the principal goals of patent law is to encourage innovation.\(^4\) In order for a patent to be considered valid, an invention must satisfy three broad criteria: it must be novel, useful, and non-obvious.\(^5\) Generally, where an inventor can satisfy these three criteria, a patent will be issued creating a temporary monopoly on the invention.

This paper reviews the third criterion for validity—the obviousness doctrine. It will explore the obviousness requirement from inception to its current state and suggest a potential refinement. In doing so, I will present a multi-jurisdictional snap-shot of the law as developed in the following countries: Britain, Australia, the United States, and Canada. For clarity, the discussion will be divided into four sections.

The first section will broadly introduce patent law from the underlying perspective of the bargain theory. Understanding that the law of patents is geared towards *a quid pro quo* is central to a review of the obviousness doctrine as it may shed light on the rationale for prohibiting the patenting of such inventions which do not satisfy the non-obvious requirement.

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\(^5\) Roger T. Hughes et al, *Hughes and Woodley on patents*, loose-leaf (consulted on 13 February 2012), 2d ed (Markham, Ont: LexisNexis, 2003), s. 1 at 1.
The second section will introduce the law of obviousness from its origin. The requirement that an invention be non-obvious was not created by any legislative body; rather, it was the product of judicial decisions. Over the course of a century, the doctrine was developed by judges and only relatively recently was the criterion codified. Prior to the advent of the obviousness doctrine, inventions only needed to be new and useful. The evaluation was evidence based; namely, the invention could not have existed prior to the patent at issue and the patent had to do what it claimed. Throughout this section I will highlight instances where judges migrated beyond the evidentiary review to a problematic review of the inventive mind.

In the third section I will present three broad criticisms pertaining to the obviousness doctrine. The inventive requirement primarily suffers because it lacks a clear definition. There is nothing within the law that demarcates exactly what constitutes an obvious invention. Moreover, the doctrine contains a Sword of Damocles companion review known as the ‘obvious to try’ assessment. This assessment is just as vague as the main obviousness evaluation and its applicability is unclear. Lastly the obviousness doctrine is approached from an unworkable standard—the ordinary person skilled in the art of the invention. The fictional character created by the courts gives rise to an uneven application of the law, and also creates a practical problem of pushing the decision-making process away from legal analysis into the hands of expert witness.

In the fourth and final section, I defend the need for an obviousness analysis. In light of the flaws identified in the previous sections, I propose a refinement to the law of obviousness by applying the principles found in the law of combinations to the mosaicing exercise permitted by the current obviousness regime. By limiting the obviousness criterion to invalidate only inventions that are a mere juxtaposition of prior art, the law gains a baseline standard for what will be considered inventive. Although the proposed revision would allow for greater patentability under the obviousness criterion, the patent bargain benefits from the increased certainty that would follow.

The doctrine of obviousness is not a subject that can be easily dismissed. It must be reviewed from the perspective of rewarding an inventor who engages in the patent bargain
with society. From this perspective, it falls upon courts to interpret the criterion in a manner that creates stability in the law. Historically, the non-obviousness requirement has left much room for speculation. The judiciary, although aware of the issue, is not in a position to invalidate over a century of jurisprudence. However, there is room for refinement; by conducting an obviousness assessment narrowly, it is possible to arrive at greater certainty within an otherwise already complex area of intellectual property.
SECTION I: WHAT IS A PATENT?

A patent is not a natural right; a patent is a temporary statutory monopoly grant. In Canada, patents are a matter of federal jurisdiction and are governed by the Patent Act. Although of not much use, the Act defines a patent as a “letters patent for an invention”. According to section 42 of the Act, a patent grants exclusivity rights.

The monopoly right to exclude is specific and does not cover an idea. When trying to understand the scope of a patent it is helpful to consider the words of Lord Herschell L.C., writing for the House of Lords:

What is the right which a patentee has or patentees have? It has been spoken of as though a patent right were a chattel, or analogous to a chattel. The truth is that letters patent do not give the patentee any right to use the invention — they do not confer upon him a right to manufacture according to his invention. That is a right which he would have equally effectually if there were no letters patent at all; only in that case all the world would equally have the right. What the letters patent confer is the right to exclude others from manufacturing in a particular way, and using a particular invention. When that is borne in mind, it appears to me very clear that it would be impossible to hold, under these circumstances, that where there are several patentees, either of them, if he uses the patent, can be called upon to pay to them a portion of the profits which he makes by that manufacture, because they are all of them entitled, or perhaps any of them is entitled, to prevent the rest of the world from using it.

An inventor must demonstrate to the state that such a powerful privilege is warranted. This legal arrangement created by a patent is often described as a bargain. The bargain theory is among the most universal policy principles driving the law of patents. The theory

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8 Ibid.
9 Ibid.
42. Every patent granted under this Act shall contain the title or name of the invention, with a reference to the specification, and shall, subject to this Act, grant to the patentee and the patentee’s legal representatives for the term of the patent, from the granting of the patent, the exclusive right, privilege and liberty of making, constructing and using the invention and selling it to others to be used, subject to adjudication in respect thereof before any court of competent jurisdiction.
10 *Steers v Rogers*, [1893] AC 232 at 235 (UKHL).
recognizes that consideration should be given in exchange for such a powerful right—a monopoly.

In jurisdictions worldwide, the bargain theory is prevalent in the judgments of the courts. Courts are mindful of the power of a patent and have repeatedly cautioned against the granting of a patent where the inventor has not fulfilled his or her end of the bargain.

In Australia, the High Court acknowledged that a patent is a state-granted privilege and reinforced the bargain principle rather succinctly in *Re Robinson’s Patent*; Isaac J. remarked:

Starting with the proposition that *prima facie* there is a bargain between the inventor and the public of the nature stated, the State recognizes that special circumstances may deprive the patentee of the substantial benefit he is presumed and intended to get, namely, adequate remuneration during his term, in return for the benefit he has conferred upon the community by introducing his invention and presenting it to the public after his term has expired.\(^\text{11}\)

Not only has the High Court recognized an inherent exchange at play when granting a patent, the focus is on furthering innovation. Similarly, the principle holds true in the United States as the courts have consistently rejected the idea that a patent is for the purpose of creating wealth.\(^\text{12}\) Rather, the United States Supreme Court has adopted the very same “bargain” language and describes the patent system as “a carefully crafted bargain for encouraging the creation and disclosure of new, useful, and nonobvious advances in technology and design in return for the exclusive right to practice the invention for a period of years.”\(^\text{13}\)

To be sure, Canada has also embraced the bargain principle and its Supreme Court has repeatedly referenced the invisible exchange that takes place between the public and inventor. In *Apotex Inc v Wellcome Foundation Ltd*, Justice Binnie confirmed the metaphor within the law:


\(^{12}\) See e.g. *Motion Picture Patents Co v Universal Film Mfg Co*, 243 US 502, 37 S Ct 416 (1917).

\(^{13}\) *Bonito Boats Inc v Thunder Craft Boats Inc*, 489 US 141 at 150-151, 109 S Ct 971 (1989). See also *Sears, Roebuck & Co v Stiffel Co* 376 US 225 at 229 (1964), 84 S Ct 784 at 788.
A patent, as has been said many times, is not intended as an accolade or civic award for ingenuity. It is a method by which inventive solutions to practical problems are coaxed into the public domain by the promise of a limited monopoly for a limited time. Disclosure is the quid pro quo for valuable proprietary rights to exclusivity which are entirely the statutory creature of the Patent Act.\(^{14}\)

However, a patent is not a simple ‘if/then’ proposition. One does not obtain a patent simply by claiming an invention and applying for a patent. Be it explicit or not, courts are mindful of the power of a patent and are thinking of the policy implications when deciding on a patent’s validity. Clearly courts are not simply going to grant a patent as of right. It is the primary objective of furthering innovation that drives patent law – only then will a patent be considered a valid exchange. Not only has this bargain emerged throughout various jurisdictions, it was agreed upon in the international treaty, The Agreement on Trade-Related Aspects of Intellectual Property (TRIPS).\(^{35}\) Considered the “new worldwide playing field for standardized intellectual property”\(^{36}\) the TRIPS Agreement represents an international understanding that intellectual property laws (in the case of patents) must strike a balance – one that is to “the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.”\(^{37}\)

Armed with this perspective that a patent represents something more than just a simple government grant, one is better suited to reviewing the criteria necessary to obtain a patent. It is with the lens of the bargain theory that one must question the strength of the requirements.

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\(^{35}\) Agreement on Trade-Related Aspects of Intellectual Property Rights, 1869 UNTS 299 (being Annex 1C of the Marrakesh Agreement Establishing the World Trade Organization, 1867 UNTS 3) [TRIPS].


\(^{37}\) TRIPS, supra note 13 at art 7.
SECTION II: HISTORICAL UNCERTAINTY & THE INVENTIVE MIND

When determining whether an inventor has fulfilled the bargain to gain a patent, the law itemizes several requirements necessary to satisfy. The earliest Canadian patent legislation contained such a codified list. Among the best examples of the explicit criteria is Canada’s second earliest patent legislation, the Patent Act of 1872.\textsuperscript{18} At section 40 of the 1872 Act, the legislation lays out the rules governing what will invalidate a patent or cause the Commissioner to reject a patent. Briefly summarized the subsections cover patentable subject matter,\textsuperscript{19} novelty,\textsuperscript{20} and fraud.\textsuperscript{21}

There is no mention of obviousness or inventiveness. This raises two questions: where did the non-obvious criterion originate from and why was it codified in the current Patent Act. Section 28.3 of the current Patent Act contains a specific requirement that all inventions must “not have been obvious”.\textsuperscript{22}

One of the earliest commentaries on the obviousness doctrine described the requirement “as a brake upon the too rapid progress of patents for analogous uses.”\textsuperscript{23} The prerequisite clearly is meant to stifle the patenting of certain inventions. In order to determine the rationale, one is unable to review any legislative source; the condition was not a creation of law-makers. Instead, the origins of the obviousness criterion date back to judicial decisions.

\textsuperscript{18} Patent Act 1872, 35 Vic, c 26 [1872 Act].
\textsuperscript{19} Ibid 40(1).
\textsuperscript{20} Ibid ss 40(2), 40(3), 40(4).
\textsuperscript{21} Ibid 40(4).
\textsuperscript{22} Act, supra note 7.
\textsuperscript{23} The subject-matter defined by a claim in an application for a patent in Canada must be subject-matter that would not have been obvious on the claim date to a person skilled in the art or science to which it pertains, having regard to

(a) information disclosed more than one year before the filing date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant in such a manner that the information became available to the public in Canada or elsewhere; and

(b) information disclosed before the claim date by a person not mentioned in paragraph (a) in such a manner that the information became available to the public in Canada or elsewhere.

\textsuperscript{23} Lewis Edmonds, The law and practice of letters patent for inventions 2d ed by TM Stevens (London, UK: Stevens and Sons, 1897) at 84.
The 1842 decision of *Crane v Price et al.* appears to contain the first emergence of the obviousness doctrine. The patent at issue was for “the manufacture of iron by means of a new process viz. the combination of a hot-air blast and anthracite in [a] furnace.” What makes the case significant is that it represented a notable instance where the Court entertained the defence argument that the *quality* of the invention at issue was not worthy of a patent:

It was objected, in the course of the argument, that the quality or degree of invention was so small, that it could not become the subject matter of a patent; that a person who could procure a license to use the hot air blast under Neilson’s Patent, had a full right to apply that blast to coal of any nature whatever, whether bituminous or stone coal.

Although, in the overall judgement, Tindal C.J. appeared to have rejected the proposition and reaffirmed the basic requirements of novelty and utility, the argument that an invention was not good enough by virtue of its quality was born. From this, began the troubled doctrine of obviousness. No longer was an invention patentable just by being novel and useful, it had to now possess an invisible characteristic—an invention had to now be inventive.

Twenty years later, in *Horton v Mabon*, the obviousness requirement gained momentum; there, the patent at issue was for “[i]mprovements in the construction of gas-holders.” Although the patentee submitted evidence that no other gas-holder as described in the patent specification was in existence, the invention was not deemed patentable. The words of Willes J, writing a brief concurring judgment are significant as it was emphasized that, although new and useful (the only legislative criteria needed for a patent), the patent was nonetheless not an invention:

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34 (1842) 1 WPC 377, 4 M & G 603 [Price].
36 *Price*, supra note 24 at 410.
37 *Ibid*.
38 (1862), 142 ER 1213, 12 CBNS 437 at 437 [*Horton*].
39 *Horton v Mabon* (1864), 143 ER 1079 at 1079, 16 CBNS 141.
I am of the same opinion. No doubt, a new combination of old machinery or instruments whereby a new and useful result is attained, may be the subject of a patent. But there must be some invention. There is none here. By making a thing in one piece instead of, as before, uniting several pieces together, the patentee no doubt effects a considerable saving of labour and expense. The merit is due to the person who first produced the article called double angle-iron. That is old and well known, and had long been applied to purposes not dissimilar to that to which the present plaintiff applies it. The mere fact of its application to gasholders rendering their construction better or cheaper, does not constitute a subject-matter for a patent.  

The decision is striking as it seems to disregard the bargain theory underlying patents. The reasons acknowledged the “considerable” improvement bestowed by the claimed invention and yet denied the inventor by ruling there must be some “invention.”

Similar verbiage can be found in the case of White v Toms where Malins V.C. rejected a claim for making mourning bonnets for women: “Whereas formerly the fold was sewn on one side only, now it is sewn on both sides; so that whichever way it is turned it has a good side outwards. There is no invention in it. However meritorious as an improvement... it is not the subject of a patent.”  

At this stage, one may begin to see the confusion such a requirement could have on the law of patents. On its face, an inventor has provided the public with an invention that is often freely admitted to being new and useful or furthermore described as better or a “meritorious improvement” relative to the state of the art. Why would the law deny the inventor the entitled monopoly after the inventor has bestowed to the public an innovation; what was missing? An inventor, upon reading the jurisprudence, is faced with uncertainty.

In their zeal to protect the patent bargain from inventors potentially cheating the metaphorical exchange, i.e. by presenting common general knowledge as a patentable invention, the courts added an additional condition to the bargain. By requiring an invention to be “inventive” the courts began to walk down the path of creating a new facet.

30 Horton, supra note 28 at 451 [emphasis original].
31 (1867), 37 L.J Ch 201 at 207, 17 L.T 348.
of patent law.\textsuperscript{32} However, the footing used was not sound and the uncertainty that ensued amounts to a judicial misfire. The courts were not occupied with tangible, objective proof. Instead, the courts began to muse about the inventive mind. Jurisdictions around the globe have adopted the idea of inventiveness and many of the judgments rendered have similar language, rationale, and ultimately, the same flaws.

\textit{Britain}

The judicial decisions of the United Kingdom were among the first to focus on the inventive mind. The language and rationale used represents boldness on the part of judges to supplant their views on inventorship in any given field.

In \textit{Tatham v Dania}, Willes J. noted the patentee must demonstrate “not merely newness in the sense of doing a thing which has not been done before, but that he must show newness in the shape of novelty by producing a thing which requires \textit{some exertion of mind} that could properly be called invention.”\textsuperscript{33}

In \textit{Gadd and Mason v Mayor, etc., of Manchester}, the patent at issue was for yet another improvement in the construction of a gas holder.\textsuperscript{34} In laying out what will and will not be patentable, Lindley, L.J. demanded that an inventor demonstrate ingenuity:

These cases, and many others which might be cited, establish the following propositions, viz.: 1. A patent for the mere new use of a known contrivance, without any additional ingenuity in overcoming fresh difficulties, is bad and cannot be supported. If the new use involves no ingenuity, but is in manner and purpose analogous to the old use, although not quite the same, there is no invention. 2. On the other hand, a patent for a new use of a known contrivance is good and can be supported if the new use involves practical difficulties which the patentee has been the first to see and overcome by some ingenuity of his own.\textsuperscript{35}

\begin{thebibliography}{99}
\bibitem{32} \textit{Britain v Hirsch} (1888), 5 RPC 226, Cotton L.J. (there must be "sufficient invention to justify a monopoly" at 232); \textit{Cole v Saqui} (1888), 6 RPC 41, Lindley L.J. (there must be some "ingenuity in that which is new" at 44).
\bibitem{33} (1869), Griff PC 213 at 214 [emphasis added].
\bibitem{34} (1892) 9 RPC 516, 67 L.T. 569.
\bibitem{35} \textit{Ibid} at 524.
\end{thebibliography}
What these early cases appear to allude to, is reluctance on the part of the judiciary to grant a patent for what it considered trivial improvements. However, this does not appear to fit within the original bargain principle of patent law. Under a strict reading of historic patent legislation, i.e. the terms of the metaphorical contract, where an inventor bestows upon the public a new and useful piece of art, the invention should receive an exclusive temporary monopoly for such disclosure. Yet, in the early cases of obviousness, the courts deviate from the black-letter law and introduce a vague, unwritten condition to the bargain: namely, that all inventions must possess “additional ingenuity.” Admittedly, from a broader perspective, the introduction of a new criterion does not upset the balance to further innovation. Because the reward given by a patent continued unchanged, inventors remained incentivized to disseminate innovations to the public. Accordingly, while the bargain from a larger policy context survived, its application as a social contract became inconsistent. Ultimately the inclusion of an ingenuity criterion creates uncertainty between the fictional exchange between inventor and society.

The requirement that an inventor demonstrate ingenuity is highly problematic. The UK courts effectively began the task of scrutinizing innovations to determine if what was disclosed was worthy of the title – invention; they did so, however, without tangible standards. Ingenuity is not a simple concept to prove. It is not like novelty where all one must do, is show the presence, or lack thereof, of prior art. Of particular value are the words of Lord Diplock in *Technograph Printed Circuits Ltd v Mills & Rockley (Electronics) Ltd* where he offered some insight into the process of where ingenuity might be when scrutinizing an invention:

Once an invention has been made it is generally possible to postulate a combination of steps by which the inventor might have arrived at the invention that he claims in his specification if he started from something that was already known. But it is only because the invention has been made and has proved successful that it is possible to postulate from what starting point and by what particular combination of steps the inventor could have arrived at his invention. It may be that taken in isolation none of the steps which it is now possible to postulate, if taken in isolation, appears to call for any inventive ingenuity. It is improbable that this reconstruction *a posteriori* represents the mental process by which the inventor in fact arrived at his invention, but, even if it were, inventive ingenuity lay in perceiving that the final result which it was
the object of the inventor to achieve was attainable from the particular starting point and in his selection of the particular combination of steps which would lead to that result.\footnote{[1971] FSR 188 at 203, [1972] RPC 346 [Mills].}

The benefit of hindsight is the natural enemy to an assessment of inventive ingenuity. In the result, obviousness may appear to strip the inventor of what he or she is owed after disclosure. In other words, the public receives a new and useful creation without giving consideration (i.e. a temporary monopoly) to the inventor who voluntarily disclosed a product.

Because the assessment is fact-specific, the added consideration of non-obviousness results in the blurring of the lines; there cannot be a true standard between what is and is not inventive. In Société Technique de Pulverisation Step v Emson Europe Ltd, Lord Hoffmann of the UK Court of Appeal acknowledged the factual nature of an obviousness assessment, yet appeared to focus more on the policy considerations found in the bargain equation:

The words "obvious" and "inventive step" involve questions of fact and degree which must be answered in accordance with the general policy of the Patents Act to reward and encourage inventors without inhibiting improvements of existing technology by others. The question is therefore whether in accordance with this policy the patent discloses something sufficiently inventive to deserve the grant of a monopoly.\footnote{[1993] RPC 513 at 519 [Emson]. See also Glaxo Group Ltd's Patent, [2004] RPC 843 at 858 [41] Both the Scylla of considering nothing obvious except that to which the skilled man is driven and the Charybdis of considering every invention obvious that can be decompressed into a sequence of obvious steps must be avoided. The former is unfair to industry because it stifles natural development. The latter is unfair to inventors and not countenanced by English patent law.}

Compounding matters are judicial decisions that attempt to clarify what qualifies as an invention, but seem only to add further confusion. Consider the words of Justice Jacob who attempted to rationalize the policy considerations at play when deciding Union Carbide Corp v BP Chemicals Ltd “Invention can lie in finding out that which those in the art thought ought not be done, ought to be done. From the point of view of the purpose of patent law it...
would be odd if there were no patent incentive for those who investigate the prejudices of the prior art.\textsuperscript{38}

On the one hand the UK courts are telling an inventor that policy reasons are conditions to the original (new and useful) bargain. On the other hand, the courts are not telling the inventor what precisely the inventor must do in order to satisfy the deal. According to Justice Jacob, an invention is valid if it can be shown that it was never thought of before. How does one demonstrate a lack of thought? The evidence that such an exercise invites is beyond a simple prior art assessment. This assessment does not lend itself to sound principles; in effect, those who wish to be rewarded for an invention appear to be at the mercy of the courts and whether a judge(s) is sufficiently impressed with an inventor’s ingenuity.

This flaw is not unique to the UK.

\textit{Australia}

In Australia, the inventive mind is explored in the same way. Similar to the UK decisions, Australian courts evaluate an invention by looking for the highly vague “inventive step” and make a determination on whether such an innovation warrants patent protection. There is also an open awareness, on the part of the judiciary, that hindsight has a negative role in the assessment.

However, rather than refining the assessment so as to avoid falling into the trap of hindsight, the courts simply acknowledged the pitfalls, cautioned against it, and pressed onward. The words of Sheppard J. of the Federal Court of Australia in \textit{Colgate-Palmolive Co v Cussons Pty Ltd} are particularly noteworthy as the passage demonstrates the Court’s willingness to continue with the inventive speculation notwithstanding the flaws inherent in the analysis:

\textsuperscript{38}[1998] RPC 1 at 13, [1997] EWHC 373 (ChD).
The important thing to remember and to keep steadily in mind is the danger of applying hindsight. When a court comes to consider whether a claimed invention is obvious, it comes to the question with the benefit (in one sense the disadvantage) of then existing knowledge and practice. It is most difficult to go back, but that is what one must endeavour to do. One therefore needs to take the greatest care to endeavour to see that hindsight plays no part in the decision making process.\footnote{\(14\)}

The role of hindsight also contributes to a larger flaw of uncertainty. Without clear definable standards, an inventor must constantly be fearful that an invention may not live up to the standards of what a court considers inventive. Exacerbating matters is a curious circular definition that has found its mark in decisions of the High Court of Australia. Following the lead of the UK, the High Court has attempted to explain obviousness by reference. However, instead of defining what it is, the courts have expressed what it is not.

In \textit{Aktiebolaget Hassle v Alphapharm Pty Ltd}, the Court described the requirement as follows: “Obviousness and inventiveness are antitheses. What is obvious cannot be inventive, and what is inventive cannot be obvious.”\footnote{\(15\)} While poetic, this definition offers no help to an inventor or legal experts on what one must do in order to safely benefit from the patent bargain.

As other jurisdictions illustrate the courts wade further into the unknown and attempt to ground the assessment with factors in order to prevent total speculation.

\textbf{United States of America}

The United States is yet another jurisdiction that has grappled with putting a clear definition on the elusive “inventive mind.” Perhaps the most telling description of the non-obviousness requirement came from Judge Frank in \textit{Picard v United Aircraft Corporation}, when writing for the Circuit Court of Appeals, Second Circuit:

‘Invention’, for patent purposes, has been difficult to define. Efforts to cage the concept in words have proved almost as unsuccessful as attempts verbally

\footnote{\(14\)} (1993) 46 FCR 225, 26 IPR 311 at 335-336.
to imprison the concept ‘beautiful’. Indeed, when one reads most discussions of ‘invention’, one recalls Kipling’s, ‘It’s pretty, but is it Art?’ and the aphorism that there is no sense in disputes about matters of taste. Anatole France once said that literary criticism is the adventure of the critic’s soul among masterpieces. To the casual observer, judicial patent decisions are the adventures of judges’ souls among inventions. For a decision as to whether or not a thing is an invention is a ‘value’ judgment. So are many other judicial judgments in other legal provinces, but ‘invention’ is a peculiarly elusive standard. To be sure, there are those who assert that we can arrive at objective art standards through noting the intuitive judgment of experts in the fine arts; others (and I am one) are somewhat sceptical. Yet it may well be that a high degree of objectivity can be attained in some such way in the field of invention. 41

The decisions from the US courts are constantly referring to the inventive mind or some variant thereof.42 However, should that be the focus? Consider the words of Woolley J. writing for the Circuit Court of Appeals, Third Circuit, in Radiator Specialty Co v Bubot who attempted to draw the review away from the mind:

In announcing this judgment we may observe that, though [sic] invention, it is not a great one. Yet, though not the work of genius, it still may be invention. Invention is not always the offspring of genius; more frequently it is the product of plain hard work; not infrequently it arises from accident or carelessness; occasionally it is a happy thought of an ordinary mind; and there have been instances where it is the result of sheer stupidity. It is with the inventive concept, the thing achieved, not with the manner of its achievement or the quality of the mind which gave it birth, that the patent law concerns itself.43

Although far from concrete, the words would seem to indicate a willingness to move beyond a review of the process leading up to the invention. Instead, the focus would be on an evaluation of the invention on its merits—whatever they may be. But as one would expect

41 128 F 2d 632 (2nd Cir 1942), (1942) 53 USPQ 563 at 569.
42 See e.g. Ransom v The Mayor of New York (1869), 1 Fisher 252, (as) invention in the sense of the patent law, is the finding out, contriving, devising, or creating something new and useful, which did not exist before, by an operation of the intellect at 269; Rosemayer v Berry (1889), 22 Fed Rep 841, (to) every improvement is inventions; but to entitle a thing to protection it must be the product of some exercise of the inventive faculties, and it must involve something more than what is obvious to persons skilled in the art to which it relates at 842; May v County of Fond du Lac (1886), 27 Fed Rep 693, (to) be patentable, a thing must not only be new and useful, but must amount to an invention or discovery at 693; Smith v Elliot (1872) 1 OG 331, (the) law, however, gives no monopoly to industry, to wise judgment, or to mere mechanical skill in the use of known means, nor to the product of either if it be not new at 331.
43 39 F 2d 373 at 376 (3rd Cir 1930).
when attempting to define a vague term with uncertain standards, this was modified in the
decision of Cuno Engineering Corporation v The Automatic Devices Corporation, where Douglas J. of the US Supreme Court interpreted the standard as one requiring that an invention
“reveal the flash of creative genius, not merely the skill of the calling. If it fails, it has not
established its right to a private grant on the public domain.”

The flash of genius doctrine lasted over 20 years in the United States until the landmark US
Supreme Court decision of Graham v John Deere Co. At issue was an invention designed to
absorb shock from the shanks of chisel plows. Writing for the US Supreme Court, Justice
Clark canvassed the evolution of patent law from 1790 to the then current US Patent Act of
1952 which contained the following provision at §103: “if the differences between the
subject matter sought to be patented and the prior art are such that the subject matter as a
whole would have been obvious at the time the invention was made to a person having
ordinary skill in the art to which said subject matter pertains[,] patentability shall not be
negatived by the manner in which the invention was made.” Double negative aside, Justice
Clark described this provision as “relatively unambiguous” with the understanding that
obviousness was a necessary requirement of law. Although the decision contained an
awareness of the problematic use of labels, such as “invention,” the decision is most
notable for its attempt to introduce a standardized test for determining whether an
invention is obvious. Justice Clark provided a three-step approach and included secondary
considerations to determine if an invention is obvious:

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44 314 US 84 at 91 (1941), 62 S Ct 37 (1941).
45 383 US 1 (1966), 86 S Ct 684 (1966) [John Deere].
46 35 USC § 103 (1964).
47 Ibid.
48 John Deere, supra note 45 at 14.
49 John Deere, supra note 45 at 11.

The language in the case, and in those which followed, gave birth to ‘invention’ as a word of
legal art signifying patentable inventions. Yet, as this Court has observed, ‘…the truth is, the
word (‘invention’) cannot be defined in such manner as to afford any substantial aid in
determining whether a particular device involves an exercise of the inventive faculty or not.’
McCain v. Ortman, 141 U.S. 419, 427, 12 S.Ct. 76, 78, 35 L.Ed. 800 (1891); Great A. & P. Tea
Co. v. Supermarket Equipment Corp., supra, 340 U.S., at 151, 71 S.Ct. at 129. Its use as a label
brought about a large variety of opinions as to its meaning both in the Patent Office, in the
courts, and at the bar.
While the ultimate question of patent validity is one of law, *A. & P. Tea Co. v. Supermarket Corp.*, *supra*, at 155, the 103 condition, which is but one of three conditions, each of which must be satisfied, lends itself to several basic factual inquiries. Under 103, [1] the scope and content of the prior art are to be determined; [2] differences between the prior art and the claims at issue are to be ascertained; and [3] the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.\(^{50}\)

Although the lower courts upheld the validity of the Graham patent, the US Supreme Court invalidated it on grounds of obviousness. In what would appear to be a passage to quell fears of uncertainty, Justice Clark stressed the factual nature of the inquiry and admitted that total uniformity may not be a viable goal: “This is not to say, however, that there will not be difficulties in applying the nonobviousness test. What is obvious is not a question upon which there is likely to be uniformity of thought in every given factual context. The difficulties, however, are comparable to those encountered daily by the courts in such frames of reference as negligence and scienter, and should be amenable to a case-by-case development.”\(^{51}\)

While *John Deere* effectively ended any prospect of resurrecting the flash of genius doctrine, there are still debates with respect to where the judiciary’s focus should lie when determining if an invention is obvious.\(^{52}\) For a time, the Federal Circuit employed a “teaching-suggestion-motivation” review (the “TSM Test”).\(^{53}\) Under this approach, the courts reviewed the prior art to determine if it (i) suggested a desirability, (ii) motivated an action or (iii) taught a particular modification—be it explicit or implicit. Under this approach, the focus was on the prior art and whether or not it contributed to the arrival of a claimed invention. Although inferences could be made regarding the thinking at the time, the law was applied in a manner that would bring in an objective review of the evidence.

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\(^{50}\) *John Deere, supra* note 45 at 17-18.

\(^{51}\) *John Deere, supra* note 45 at 18.

\(^{52}\) See e.g. Jeanne C. Fromer, “The Layers of Obviousness in Patent Law” (2008) 22:1 Harv JL & Tech 75 at 85, (suggesting a bi-layered approach, assessing both the conception and reduction to practice of an invention).

\(^{53}\) *Winner Int’l Royalty Corp v Wing*, 202 F.3d 1340 (Fed Cir 2000).
Instead of assessing the inventive mind, the courts channelled the scrutiny onto the evidence presented. It could be argued the law had a degree of credibility to it; namely, an inventor’s case would be won or loss on the prior art and the precise teachings thereof, not the inventive mind.

Yet, this changed in 2007 with the US Supreme Court decision of KSR International Co v Teleflex Inc. In KSR, the invention at issue was for an adjustable gas pedal system in cars that allowed for the pedal to be moved forward to accommodate persons of varying height — particularly those of smaller stature. Teleflex, however, had already owned a patent for an electronic adjustable pedal and brought an action against KSR for infringement. Claim 4 of the Teleflex patent read as follows:

4. A vehicle control pedal apparatus comprising:

   a support adapted to be mounted to a vehicle structure;

   an adjustable pedal assembly having a pedal arm moveable in force and aft directions with respect to said support;

   a pivot for pivotally supporting said adjustable pedal assembly with respect to said support and defining a pivot axis; and

   an electronic control attached to said support for controlling a vehicle system;

   said apparatus characterized by said electronic control being responsive to said pivot for providing a signal that corresponds to pedal arm position as said pedal arm pivots about said pivot axis between rest and applied positions wherein the position of said pivot remains constant while said pedal arm moves in fore and aft directions with respect to said pivot.  

KSR defended the action by asserting the Teleflex patent was invalid for obviousness and cited three prior art patents. The first taught an adjustable pedal assembly with a fixed pivot point for moving the pedal forward. The second described using an electronic sensor

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to detect the position of the pedal\textsuperscript{57}, and the third taught to place a position sensor on a fixed pivot—namely the fixed part of the pedal assembly, not the footpad.\textsuperscript{58}

At trial, the District Court ruled in favour of KSR; however, the decision was overturned by the Court of Appeals for the Federal Circuit. At the US Supreme Court, the Court took the opportunity to examine the efficacy of the \textit{John Deere} factors and further added rationales to be considered when conducting an obviousness assessment. What some may call consistency in application, the US Supreme Court classified as a “rigid” application of the TSM Test and invoked concerns of progress (a derivative of the bargain theory) to justify an expanded review:

Helpful insights, however, need not become rigid and mandatory formulas; and when it is so applied, the TSM test is incompatible with our precedents. The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way. In many fields it may be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends. Granting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility.\textsuperscript{59}

By invoking the fear that innovation would be stifled, the US Supreme Court opened the door for further hurdles to be placed in the way of an invention being granted a patent. While this may appear to simply be a further refining of the grounded TSM Test, the additional considerations posited by the Court pushed the focus away from the prior art, back to the inventive mind.

Going beyond what the prior art taught, the Court now allowed for speculation on the state of the art, considering, among other things: the combining of prior art according to known

\textsuperscript{57}“Foot pedal arrangement for electronic throttle control of truck engines,” US Patent No 5241916 (9 September 1991).
\textsuperscript{59}KSR, supra note 54 at 15.
methods, substituting one known element for another, and using known techniques to existing art that is ready for improvement where a finite number of solutions are identified. While an argument can be made that these factors simply prevent against a combination of known elements, the most troublesome added consideration is the recourse to “common sense.”

Fearing the TSM Test created a mechanistic approach to the obviousness assessment, the Court posited that it was well within the purview of the examination to contemplate instances of common sense to extrapolate beyond what any given piece of prior art explicitly taught. According to the Court, “[c]ommon sense teaches, however, that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” To the Court, judges should not be barred from piecing together the puzzle, since “[r]igid preventative rules that deny factfinders recourse to common sense, however, are neither necessary under the case law nor consistent with it.”

At face value, the notion to encourage judges to exercise some logic may be appealing. The KSR standard now asks for judges to go beyond the mere teachings of the prior art; if an inventor is attempting to obtain a patent on an improvement of a chair, it may be logical to review the prior art teachings of tables since both have four legs. However, this type of analysis invites uncertainty and an uneven application of the law.

Consider the instructions given by the United States Patent and Trademark Office on what an inventor must consider when attempting to obtain a patent:

In short, the focus when making a determination of obviousness should be on what a person of ordinary skill in the pertinent art would have known at the time of the invention, and on what such a person would have reasonably expected to have been able to do in view of that knowledge. This is so

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60 Ibid. See also, Colleen Murphy, “Judges are abusing their authority to determine obviousness by applying KSR without changing the legal standard of review” (2010) 79 U Cin L Rev 349 at 353 [Murphy].
61 KSR, supra note 54 at 16-17.
62 Ibid at 17.
63 Murphy, supra note 60 at 354.
regardless of whether the source of that knowledge and ability was
documentary prior art, general knowledge in the art, or common sense.\textsuperscript{64}

The viewpoints of judges are acceptable on matters of law; however, under an obviousness
assessment, a judge is not applying the common sense of a jurist. Instead, a judge must
apply the common sense of a person having ordinary skill in the art of the impugned
invention. Common sense becomes a far more difficult rationale when applied in fields
beyond law. What inevitably results, as will be discussed later, is a battle of experts to
determine whose common sense is more forceful.

Like the others, Canada is not immune to this problem, either.

\textit{Canada}

In Canada, the development of the law of obviousness relied heavily on UK jurisprudence.
The Supreme Court of Canada in many ways had the benefit of other jurisdictions having
already grappled with this area of law. However, the very same vagueness issues that
plagued the courts abroad were imported into Canadian law.

Among the first Canadian cases adopting the doctrine of obviousness was the decision of
\textit{Ball v Crompton Corset Co}, in which the proposed invention was the replacing of metal
springs for rubber when manufacturing women’s corsets.\textsuperscript{65} It was freely accepted that the
new and useful substitution provided a better result, being both cheaper and more durable;
however, Sir W. J. Ritchie C.J. decided that “there must be some real novelty in the
substitution, or in the application of an old invention to a new purpose.”\textsuperscript{66} Although later
Canadian decisions would refer to this invention as “the work of an inventive genius”\textsuperscript{67} the

\textsuperscript{64} Manual of Patent Examining Procedure, 72 Fed Reg 57526 at 57527 (2007); See also The United States Patent and
8, July 2010).

\textsuperscript{65} [1887] 13 SCR 469, 1887 CarswellOnt 26 (WL Can) [Ball].

\textsuperscript{66} \textit{Ibid} at 476.

Supreme Court did not accept the invention as patentable subject matter and appeared to
corner off inventions that are exempt from the bargain theory—namely substitutions.\textsuperscript{68}

As the jurisprudence evolved, the domain of non-patentable inventions appeared to widen
from mere substitutions to a denial of slight advances. In \textit{Lightning Fastener Co v Colonial
Fastener Co}, the impugned invention was for an improved fastener that slid apart.\textsuperscript{69} While
being unanimously accepted as a meritorious combination of old parts, the Court ruled
there was no “real step by way of invention within the meaning of patent law.”\textsuperscript{70} The Court
further interpreted the applicable Patent Act at that time (which did not contain an
obviousness provision) by stating, “It is not the object of the \textit{Patent Act} to dignify by the
name of invention every slight advance in the domain of mechanism.”\textsuperscript{71}

As a result, the Canadian courts drew a distinction between an invention that was inventive
and an invention that was a mere workshop improvement. Similar to other jurisdictions,
the Supreme Court did not set out any clear indication of what differentiates the two
categories, only remarking that the former contains a “scintilla of invention.”\textsuperscript{72}

With little guidance on the subject, the Canadian courts gravitated towards the inventive
mind. In \textit{Canadian Gypsum Co v Canadian Gypsum, Lime and Alabastine, Canada Ltd}, the
Exchequer Court attempted to justify the focus on inventive ingenuity with the bargain
theory and as Maclean J. denied patent protection, he attempted to summarize what will
satisfy the Court:

\begin{quote}
To support a valid patent there must be something more than a new and useful
manufacture, it must have involved somehow the application of the inventive
mind; the invention must have required for its evolution some amount of
ingenuity to constitute subject matter, or in other words invention.
Fortunately the law does not authorize the granting of a monopoly for
\end{quote}

\textsuperscript{68} \textit{Ball, supra} note 65, (“the substitution in this case is in no sense the creative work of an inventive faculty, which
the patent laws are intended to encourage and reward; and that the fact that the plaintiffs’ improvement has proved
successful and highly useful does not, necessarily, establish that it is an invention entitling the plaintiffs to a patent” at 475).
\textsuperscript{69} [1933] SCR 371, [1933] 3 DLR 342 [\textit{Lighting Fastener}].
\textsuperscript{70} \textit{Ibid} at 377.
\textsuperscript{71} \textit{Ibid}.
\textsuperscript{72} \textit{The King v Ublemann Optical Company}, [1952] 1 SCR 143 at 152, (1951) 15 CPR 99 [Ublemann].
everything that is new and useful. The design of the patent law is to reward those who make some substantial discovery or invention which adds to our knowledge and makes a step in advance in the useful arts. If there is no novelty there can of course be no inventive ingenuity, but if there is novelty in the sense required in the law of patents, it must be the product of original thought or inventive skill. As stated in the cases, the inventive ingenuity necessary to support a valid patent may be found in the underlying idea, or in the practical application of that idea, or in both. It may happen that the idea or conception is a meritorious one, but that once suggested, its application is very simple. Again, it may be that the idea is an obvious one, but that ingenuity is required to put it into practise. Or, again, the idea itself may have merit and the method of carrying it into practice also require inventive ingenuity.\footnote{[1931] Ex CR 180 at 187, 1931 CarswellNat 36 (WL Can).}

Maclean J., in the later decision of \textit{Crosley Radio Corporation v Canadian General Electric Co Ltd}, added further speculation to what constitutes inventive ingenuity when, in that case, he remarked that an invention required an “impalpable something” that “distinguishes things invented from things otherwise produced.”\footnote{[1935] Ex CR 190 at 196, [1936] 1 DLR 508.} On appeal, the Supreme Court agreed that the alleged invention—shelving on fridge doors—did not contain the indefinable “something”:

Hollow doors with shelves or bulged out doors had already been designed. If a refrigerator manufacturer was not satisfied with his shelving arrangement, it would not require invention on his part to adopt the shelving arrangement of other article-storing cabinets. We fail to see an inventive step, in the sense indicated by the decided cases, in the fact of merely designing a recess door with shelves in the hollowing space, with the consequential result that the door will be bulged out. There was no problem in the idea, nor difficulty in the carrying out of it.\footnote{[1936] SCR 351 at 358, [1936] 3 DLR 737.}

By the 1960’s, the focus on the inventive mind caused a growing acceptance of the “Cripps question” by the Exchequer Court. The “Cripps question” was originally developed in the UK. It was named after Sir Stafford Cripps, who was counsel in the case of \textit{Sharp \& Dohme Inc v Boots Pure Drug Co} and who presented the question for the Court to answer:

Was it obvious to any skilled chemist, in the state of chemical knowledge existing at the date of the Patent, that he could manufacture valuable therapeutic agents by making the higher alkyl resorcinols by the use of the
condensation and reduction processes described? If the answer is 'No' the Patent is valid as regards subject matter; if 'Yes' the patent is not valid.76

With minor amendments regarding the relevant date77, the Cripps question was adopted by the Supreme Court of Canada in *Halocarbon v Farbwerke Hoechst* which dealt with a process patent dealing with the production of halothane – a fluorinated anaesthetic.78 However, the decision was not a unanimous approval (4-3) and it did not signal the end to uncertainty plaguing the obviousness doctrine at the time. In dissent, Justice Martland cautioned on the universal application of the question and noted that the question “was formulated in argument in relation to the circumstances of a particular case and did no more than to reduce the question ‘was the invention obvious’ into the context of that case. It did not set any standard or test by which ‘obviousness’ (in the English context) or ‘inventive ingenuity’ (in the Canadian context) should be judged. The answer to a paraphrase of that question is not determinative in deciding as to the existence of inventive ingenuity on the facts of any particular case.”79

Rather than abandon the question, the courts refined and generalized the legal exercise. In order to adapt, the “Cripps question” was modified to no longer concern itself with a chemist; instead, the term “man skilled in the art” became the generic version of the notional person envisioned by the “Cripps question”. Under this scheme, judges would interpret the patent specification (i.e. the disclosure and the claims) as if it were addressed to “a skilled man reasonably well versed in the art” and it would be this hypothetical person who determined whether the invention was obvious or not.80

At first glance, this standard is not altogether problematic. Courts have often used hypothetical standards, such as the reasonable man in tort law, to evaluate the outcome of a particular dispute. However, the Canadian courts delved deeper into hypothetical evaluators, and over time, the man skilled in the art, was modified to the “unimaginative

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76 (1928), 45 RPC 153 at 162-163, (1927) 44 RPC 367 (CA).
77 See e.g. *Burns & Russell of Canada Ltd v Day and Campbell Ltd*, [1966] Ex CR 673 at 681, (1965) 31 Fox Pat C 36, (noting the relevant date in Canada is not the date of patent but rather “the date of the invention”).
78 [1979] 2 SCR 929, *sub nom Farbwerke Hoechst AG v Halocarbon* (Ont) Ltd 42 CPR (2d) 145.
79 Ibid at 934.
skilled technician” who was then tasked with whether or not he could arrive at the impugned invention “directly and without difficulty”.

This added characteristic of being “unimaginative” created an additional layer of uncertainty. No longer was an inventor tasked with satisfying a reasonable person. Instead, an inventor would have to somehow demonstrate that a hypothetical lobotomized person would not arrive at the invention. Perhaps the most colourful depiction of the fictional evaluator came from the 1986 Federal Court of Appeal decision in Beloit Canada Ltd/Ltd v Valmet Oy. Justice Hugessen, writing for the unanimous majority, presented the following description of the person skilled in the art:

The test for obviousness is not to ask what competent inventors did or would have done to solve the problem. Inventors are by definition inventive. The classical touchstone for obviousness is the technician skilled in the art but having no scintilla of inventiveness or imagination; a paragon of deduction and dexterity, wholly devoid of intuition; a triumph of the left hemisphere over the right. The question to be asked is whether this mythical creature (the man in the Clapham omnibus of patent law) would, in the light of the state of the art and of common general knowledge as at the claimed date of invention, have come directly and without difficulty to the solution taught by the patent. It is a very difficult test to satisfy.

In effect, the Canadian courts have two broad exercises: (i) conjure the mind of an unimaginative skilled worker and (ii) ask whether this fictional person would have come to the invention without difficulty or whether it would have required an indefinable “spark.”

However, around the same time when Canada began grappling with this standard, the UK Court of Appeal changed its methodology for determining obviousness.

In the 1985 decision of Windsurfing International v Tabur Marine, the UK Court of Appeal set out a four-part exercise for a trier of fact to conduct when determining obviousness.

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83 Beecham Canada Ltd v Procter & Gamble Co (1982), 61 CPR (2d) 1 at 27, 12 ACWS (2d) 491 (FCA) [Beecham].
84 (1986), 8 CPR (3d) 289, 38 ACWS (2d) 415 [Beloit].
85 Ibid at 293-294 (FCA), leave to appeal to SCC refused (1986) 8 CIPR xvi.
There are, we think, four steps which require to be taken in answering the jury question. The first is to identify the inventive concept embodied in the patent in suit. Thereafter, the court has to assume the mantle of the normally skilled but unimaginative addressee in the art at the priority date and to impute to him what was, at that date, common general knowledge in the art in question. The third step is to identify what, if any, differences exist between the matter cited as being “known or used” and the alleged invention. Finally, the court has to ask itself whether, viewed without any knowledge of the alleged invention, those differences constitute steps which would have been obvious to the skilled man or whether they require any degree of invention.86

From an analytical perspective, the test can be seen as a merger between the directly and without difficulty standard and a modified TSM Test as postulated by the United States Supreme Court. In effect, a trier of fact must review the prior art and surrounding common knowledge and make a determination, from the perspective of the unimaginative addressee, whether it would have been obvious.

In the result, the UK Court of Appeal found the impugned invention—a wishbone boom for a sailboard—obvious, since a skilled person would be “at least sufficiently interested to read” an article expounding the benefits of the prior art rig on water.87 Interestingly, the very same invention was before the Canadian Federal Court of Appeal who applied the “directly and without difficulty” standard. In Canada, the Court arrived at the opposite result. Instead of reviewing the common general knowledge as articulated by the UK Court of Appeal, the Canadian Federal Court of Appeal appeared to disregard the possibility of importing general knowledge and focussed on whether the invention would have come directly and without difficulty specifically to the individuals put forward to testify as persons skilled in the art—ultimately concluding the invention was sufficiently inventive.88

While the UK had carved out a methodical approach to the issue of obviousness, Canada saw very little provided to inventors and litigators in the way of commonly applicable standards. The law appeared only concerned with passing judgment on the invention and not laying down principles for future decisions. This, however, began to change in 2006, in

86 Ibid at 73-74.
87 Ibid at 74.
88 Windsurfing International Inc v Trilantic Corp (1985), 8 CPR (3d) 241 at 256, (sub nom Windsurfing International Inc v Bic Sports Ind) 63 NR 218.
the Federal Court decision of *Janssen-Ortho Inc and Daiichi Pharmaceutical Co Ltd v Novopharm Ltd*. At trial, Justice Hughes within the scope of a “directly and without difficulty” analysis put forward 10 factors to be considered. While the factors were to be applied flexibly, Justice Hughes nevertheless appeared to identify a lack of objectivity in the law and stated: “A determination of obviousness on a principled and objective basis requires that the Court take into consideration a number of factors. These factors may vary in number and importance dependent upon the circumstances of the case. The Court is not a scientific body, thus it must take the facts of the case, the opinions of the experts and the circumstances as presented into consideration and come up with a weighed decision.”

On appeal, however, the Federal Court of Appeal was hesitant to adopt any type of standardized test. Instead, the Court edited the factors and provided strong caution on the use in any mechanical fashion:

There is no single factual question or a set of questions that will determine every case, or any particular case. Justice Hughes, at paragraph 113 of his reasons, proposes a list of factors to be considered when the validity of a patent is challenged on the basis of obviousness. The list is apparently derived from a survey of numerous cases from Canada, the United States and the United Kingdom. In my view, despite the continual debate as to whether the legal test for obviousness is the same in all of those countries, the list of factors proposed by Justice Hughes is helpful to guide the required factual inquiry, and as a framework for the factual analysis that must be undertaken.

I emphasize that this list is a useful tool, but no more. It is not a list of legal rules to be slavishly followed; nor is it an exhaustive list of the relevant factors. The task of the trial judge in each case is to determine, on the basis of the

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89 2006 FC 1234, (2006) 57 CPR (4th) 58 [*JanssenOrtho*].
90 The factors were: (1) What is the invention as claimed? (2) Who is the person skilled in the art to whom the patent is addressed? (3) What body of knowledge and information would the ordinary person skilled in the art be expected to have, or to be reasonably able to obtain, as of the date of the alleged invention? (4) What is the climate in the relevant field at the time the alleged invention was made? (5) What motivation existed at the time the alleged invention was made to solve a recognized problem? (6) What effort and time was involved? (7) Commercial Success: Was the subject of the invention quickly and anxiously received by relevant consumers? (8) Were there any subsequently recognized advantages? (9) Were there any meritorious awards received? And (10) Avoid hindsight in all of the above. *Ibid* at para 113.
91 *Janssen-Ortho*, supra note 89 at para 113.
evidence, sound judgment and reason, the weight (if any) to be given to the listed factors and any additional factors that may be presented.\textsuperscript{92}

On the one hand, there appeared a desire on the part of Canadian courts to standardize the approach to uncovering what is and is not obvious; however, on the other, there was a great concern over the consistent use of set criteria.

It was not until 2008, in the case of \textit{Sanofi-Synthelabo Canada Inc v Apotex Inc}\textsuperscript{93}, that the Supreme Court of Canada standardized the analysis by adopting the UK approach. At the time, the \textit{Windsurfing} test was restated most persuasively by Lord Justice Jacob of the UK Court of Appeal in the decision of \textit{Pozzoli SpA v BDMO SA}.	extsuperscript{94}

Writing for a unanimous majority, Justice Rothstein adopted the \textit{Pozzoli} restatement and set forth the four-part test that would be followed by lower courts.

It will be useful in an obviousness inquiry to follow the four-step approach first outlined by Oliver L.J. in \textit{Windsurfing International Inc. v. Tabur Marine (Great Britain) Ltd.}, [1985] R.P.C. 59 (C.A.). This approach should bring better structure to the obviousness inquiry and more objectivity and clarity to the analysis. The \textit{Windsurfing} approach was recently updated by Jacob L.J. in \textit{Pozzoli SPA v. BDMO SA}, [2007] F.S.R. 37 (p. 872), [2007] EWCA Civ 588, at para. 23:

\begin{quote}
In the result I would restate the \textit{Windsurfing} questions thus:
\begin{enumerate}
\item (a) Identify the notional “person skilled in the art”;
\item (b) Identify the relevant common general knowledge of that person;
\item Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
\item Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed;
\end{enumerate}
\end{quote}


\textsuperscript{93}2008 SCC 61, 2008] SCR 265 [Sanofi].

\textsuperscript{94}[2007] EWCA Civ 588 at 879, 2007] FSR 37 [Pozzoli].
(4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?25

The decision in Sanofi, also gave rise to a companion review of an invention asking whether it would have been “obvious to try?” Although the analysis is to be applied in “areas of endeavour where advances are often won by experimentation”26 the test has been the subject of criticism on its relevance, which will be expanded further, below.

In Canada, the Sanofi approach stands as the most authoritative judgment on the law of obviousness. But, as will be discussed, the standardized test still suffers from deficiencies.

25 Sanofi, supra note 93 at para 67
26 Ibid at para 68.
SECTION III: SPECIFIC UNCERTAINTY

While the above survey demonstrates a general uncertainty to the law of obviousness, there are specific areas of the doctrine that require separate examination. When the law and commentary is reviewed, three broad criticisms emerge.

Indefinable

First, the law is problematic because it lacks a clear definition on what constitutes an invention. Fundamentally, good jurisprudence builds upon clear definable boundaries. One cannot engage the patent bargain without knowing the precise terms of the metaphorical agreement.

The courts have grappled with the concept that an invention must be inventive since the inception of the doctrine. The requirement is not only a semantic challenge but also possess a practical issue of denying an invention a patent notwithstanding the satisfaction of both novelty and utility.

In 1947, Harold G. Fox wrote:

The point at which trouble has arisen and at which the patent system has partially failed arises from the growth of the doctrine of invention. The system of granting patents other than for mischievous monopolies was in the beginning based upon a reward to the person who introduced or brought into being a new manufacture, or, in other words, to the inventor of a new manufacture within the country. In its origin that was a simple formula but, with the progress of three centuries and more, it has degenerated into a complicated doctrine whereby the subject of the patent, the thing which is to be protected, must, before a valid patent can be granted in respect thereof, be possessed of a mystical, indefinable quality known as invention. From that doctrine much evil has resulted. The submission is made that it was not a necessary incident of the law of patent grant at the time the system was instituted and has been merely the outgrowth of that unhappy element of legal development known as judicial legislation. If it had never found its way into the law, we should have had a much more satisfactory and workable system
and should not be facing some of the absurdities to which a slavish adherence to false doctrine has driven us today.\textsuperscript{97}

The “indefinable quality known as invention” was reference to the current criterion of non-obviousness. The criterion has many aliases: the doctrine obviousness, non-obviousness, invention, and inventive ingenuity to name a few. However, all represent the same concept. A patent will not be granted or will be declared invalid where the invention is deemed obvious to the person having ordinary skill in the art of the particular invention.\textsuperscript{98}

Among the most apt cases which demonstrate the difficulty the judiciary encountered when creating the doctrine is the UK decision of \textit{Hayward v Hamilton}.\textsuperscript{99} The decision contains many statements on the part of the Court expressing a willingness to limit certain inventions.\textsuperscript{100} However, the struggle the Court faced in trying to explicitly define the limitation is most clearly seen in the words of Lord Justice Bramwell:

There was a point raised and discussed which for a time did seem to me to present a difficulty, namely, whether although this was new and useful, it could be said to be an invention. Now the difficulty that that proposition presented to me was this: that I did not recollect of myself any case in which, where a thing had been pronounced to be new and useful, the question of whether it was an invention had been ever discussed, or even left to a jury, for instance. It seemed to me in all previous cases it had been taken for granted that if the thing were new and useful there must have been an invention in order to arrive at a thing that can be so described, and I should say that in nine hundred and ninety-nine cases out of a thousand that must be so. I say if the thing is new and useful it is impossible to suppose there is not sufficient [sic] to make an invention, but I do not think as a matter of law that could be predicated as an absolute rule of law, because I think it is possible, although a thing were new and useful, it might be, under certain circumstances, that there was no invention in it.\textsuperscript{101}

In the United States, the US Supreme Court questioned the doctrine of obviousness in the very judgment that introduced it as law. In \textit{Hotchkiss v Greenwood}, the case considered to be

\textsuperscript{97} Harold G. Fox, \textit{Monopolies and Patents}, (Toronto: The University of Toronto Press, 1947) at 212.
\textsuperscript{99} (1881), Griff PC 115 [\textit{Hayward}].
\textsuperscript{100} See e.g. \textit{Ibid}, (an invention “is not less an invention because it required but small inventive powers to enable him to do it” at 116).
\textsuperscript{101} \textit{Hayward}, \textit{supra} note 99 at 121.
the first case to introduce an inventive criterion, Woodbury J., in dissent, foretold the problematic nature of the doctrine and remarked, “It is thus apparent to my mind that the test adopted below for the purpose to which it was applied, and which has just been sanctioned here, has not the countenance of precedent, either English or American, and at the same time it seems open to great looseness or uncertainty in practice.” The US Supreme Court would reiterate the sentiment in the decision of McClain v Ortmayer, where the Court candidly remarked: “The truth is, the word [i.e invention] cannot be defined in such manner as to afford any substantial aid in determining whether a particular device involves an exercise of the inventive faculty or not.” Perhaps the most colourful expression of frustration can be found in the words of Justice Learned Hand, who commented that determining a true invention is “as figurative, impalpable, wayward, and vague a phantom as exists in the whole paraphernalia of legal concepts.

The High Court of Australia has also acknowledged the problem of using phrases such as “inventive merit” and “appreciable merit” in defining an invention and noted “[t]he phrase invites error through imprecision of legal analysis.

With a lack of a clear definition, the judiciary is left speculating on what constitutes an inventive invention. This point was made most clearly in the often quoted decision of Samuel Parkes & Co v Cocker Bros, Tomlin J. (as he then was) openly expressed concern over the division (or lack thereof) between what qualifies as an invention:

Nobody, however, has told me, and I do not suppose anybody ever will tell me, what is the precise characteristic or quality the presence of which distinguishes invention from a workshop improvement. Day is day, and night is night, but who shall tell where day ends or night begins? ... The truth is that, when once it had been found, as I find here, that the problem had waited solution for many years, and that the device is in fact novel and superior to what had gone before, and has been widely used, and used in preference to alternative devices, it is, I think, practically impossible to say that there is not present that scintilla of invention necessary to support the Patent.

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103 52 US 258 at 270, 11 How 248 (1850).
104 141 US 419 at 427, 12 S Ct 76 (1893).
105 Harris v Air King Products, 183 F 2d 158 at 162, 86 USPQ 57 (2d Cir 1950) [Air King].
107 (1929), 46 RPC 241 at 248.
In the earlier decisions, the only recourse available for the courts was to scoff with “amused contempt” and marvel at how the concept became “an idea for destroying patents.” Later decisions simply created synonyms, requiring an inventor to demonstrate a “scintilla,” or a “spark”, even a “quantum leap” over the prior art. However in Sanofi, the Supreme Court of Canada appeared to come to terms with the indefinable nature of the concept and Justice Rothstein adopted the words of Lord Justice Diplock from the UK decision in Johns-Manville Corporation’s Patent, who stated:

Patent law can too easily be bedevilled by linguistics, and the citation of a plethora of cases about other inventions of different kinds. The correctness of a decision upon an issue of obviousness does not depend upon whether or not the decision has paraphrased the words of the Act in some particular verbal formula. I doubt whether there is any verbal formula which is appropriate to all classes of claims.

The Canadian Federal Court of Appeal has followed this warning and appeared to have abandoned any hope of pinning concrete definitions and boundaries to the requirement of an invention, with the often cited reasons being that “[c]atch phrases, tag words and generalizations can take on a life of their own, diverting attention away from the governing principles.”

This is not to discount the efforts of the judiciary. Indeed, it is sometimes appropriate to define concepts broadly so as to create flexibility in the law. Recall that among the primary reasons for adding the “common sense” factor in the US KSR decision was the desire to make the law flexible. However, where the law stands currently, there is nothing of significant value to guide inventors, lawyers or judges, other than the instruction to find the “inventive concept” and ask if the invention was obvious.

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Edison Bell Phonograph Corporation, Limited v Smith and Young (1894), 11 RPC 389 at 398.

Diversified Products Corp v Tye-Sil Corp (1991), 35 CPR (3d) 350, 41 FTR 78 at para 37.

Martindale Industries Ltd v Fabricants National Dagendorf Manufacturing Ltd (1991), 41 CPR (3d) 1, 49 FTR 81 at para 81.

Globe-Union Inc v Varta Batteries Ltd (1984), 3 CIPR 1 at para 25, (sub nom Johnson Controls Inc v Varta Batteries Ltd)

80 CPR (2d) 1.


Sanofi, supra note 93 at para 61.

Moreover, the doctrine is further complicated by the companion assessment known as the “obvious to try” analysis.

**The ‘Obvious to Try’ Sword of Damocles**

The Supreme Court of Canada decision of *Sanofi* stands as the clearest articulation of the law on obviousness. The decision contains a four-part test that is regularly followed by the Canadian Federal Courts. However, there is a supplementary exercise endorsed in the *Sanofi* decision that further complicates the analysis. After a brief review of UK and US decisions, Justice Rothstein added a further consideration to the last criterion of the four-part test for obviousness.

In addition to asking whether the difference between the prior art and the claimed inventive concept would have been obvious, courts are further instructed to ask if the invention would have been “obvious to try.” Admittedly, Justice Rothstein did not mean for the obvious to try inquiry to be universally applied to all cases of obviousness; however, he did not provide concrete limitations. With the exception of an explicit naming of the pharmaceutical industry, courts were left with vague guidance on where else the assessment may be appropriate: “In areas of endeavour where advances are often won by experimentation, an ‘obvious to try’ test might be appropriate. In such areas, there may be numerous interrelated variables with which to experiment.”

To guide courts, Justice Rothstein provided a three-part assessment in order to ascertain if an invention would have been obvious to try.

If an “obvious to try” test is warranted, the following factors should be taken into consideration at the fourth step of the obviousness inquiry. As with anticipation, this list is not exhaustive. The factors will apply in accordance with the evidence in each case.

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114 *Sanofi*, supra note 93 at para 68.
1. Is it more or less self-evident that what is being tried ought to work? Are there a finite number of identified predictable solutions known to persons skilled in the art?

2. What is the extent, nature and amount of effort required to achieve the invention? Are routine trials carried out or is the experimentation prolonged and arduous, such that the trials would not be considered routine?

3. Is there a motive provided in the prior art to find the solution the patent addresses?

Another important factor may arise from considering the actual course of conduct which culminated in the making of the invention. It is true that obviousness is largely concerned with how a skilled worker would have acted in the light of the prior art. But this is no reason to exclude evidence of the history of the invention, particularly where the knowledge of those involved in finding the invention is no lower than what would be expected of the skilled person.15

There are two issues that arise with the addition of the obvious to try assessment. The first is a question of timing; when is it appropriate? Justice Rothstein does not provide specific criteria to guide courts, other than in areas where experimentation is used for advancement. Complicating matters are explicit warnings not to universally use the obvious to try assessment for fear that it might become a “panacea for alleged infringers.”16

The lack of guidance has resulted in an ad hoc approach, whereby judges appear to simply assert that a case warrants the secondary assessment without any justification. Consider the Federal Court obviousness decision of Wenzel Downhole Tools Ltd v National-Oilwell Canada Ltd.17 The patent at issue related to a piece of oilfield equipment that facilitates the drilling of oil and gas wells. The invention was clearly outside the pharmaceutical industry and considered most appropriately to be a mechanical invention—several mechanical engineers were called upon as expert witnesses. As a result, the trial judge would need to give reasons explaining why an obvious to try assessment would be necessary since Sanofi provided no guidance regarding patents on mechanical inventions. However, when the trial judge

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15 Ibid at paras 69-70.  
16 Ibid at para 64.  
arrived at the moment of whether or not to apply the test, she simply remarked “[a]n ‘obvious to try’ analysis is clearly warranted here.”  

Presumably, every area of innovation can be argued as requiring some level of experimentation and it could be argued that an obvious to try assessment should be applied so as to be thorough and vigilant in protecting the patent bargain. However, the absence of a clear distinction on when it would be applicable is troublesome; the result of which, causes inventions to be under constant threat of attack.

The second concern that results from an obvious to try analysis is the area of scrutiny focussed on by the judiciary, i.e. the inventive path taken. Primarily, the law is concerned with only allowing inventions that contribute and innovate over the state of the art. Yet, the obvious to try assessment pulls the analysis back to a time before the invention is created and conducts a review of the inventive path of the inventor, effectively sanctioning certain experiments while denouncing others.

One of the earliest cases that introduced the analysis is the UK Court of Appeal decision of *Johns-Manville Corporation’s Patent*. At issue was a patent that claimed a flocculating agent that caused separation of solids in a cement mixture, allowing for a method of producing shaped asbestos cement articles. Although the use of filtration agents was well known, no particular agent had proven effective for the shaping of asbestos cement articles. The main argument alleged was that the use of a flocculating agent in a cement mixture would have been obvious to try. Writing for the majority, Lord Justice Diplock identified the type of inventive path that would render an invention obvious; he refined the lower Court’s characterization of the inventive thought process and rephrased it as follows:

The learned judge preferred the expression “see without difficulty that these newly-introduced polymers would be of advantage in his filtration step”. I think that “would be” puts it too high if it postulates prior certainty of success before actually testing the polymers in the filtration process; it is enough that the person versed in the art would assess the likelihood of success as sufficient

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118 *Ibid* at para 197.
119 *Johns-Manville*, supra note 111.
to warrant actual trial. I do not, however, understand that the learned judge meant more than this, for he did not consider that there was any genuine difference between his phrase and that used by the superintending examiner.120

Effectively Lord Justice Diplock laid out the type of testing that would be considered obvious to try: specifically, experimentation that would have been obvious to pursue and would likely have been successful. Later UK decisions would endorse these conjunctive dual criteria, commenting that the research path would not only have to be obvious to embark, but the trial also needed a “fair expectation of success” once the inventor embarked on the testing.121

As the threshold is versed positively, the negative will reveal what experimentation is acceptable. Testing that would not be self-evident and/or does not contain a predictable successful outcome would therefore be testing approved by the courts. This is not to suggest inventors can only pursue experimentation devoid of success, such a concern was rejected by Justice Rothstein in Sanofi.122 However, the result of the obvious to try assessment is a sanctioning of certain inventive paths available for patentable protection.

What is troubling is the focus on the inventive path itself. An inventor does not seek to patent the lead-up to discovery; why should the experimentation vitiate the invention and subsequent patent? Under the obvious to try rubric, courts will investigate the inventive process to determine if the path is acceptable. If the path is unacceptable (i.e. experimentation that was obvious to pursue and had a fair expectation of success) the invention is denied patent protection. Such an investigation directly impacts the innovative world. If the judiciary sets a limitation on the patent bargain by excluding inventions that arise out of certain experimentation, there is arguably no incentive to pursue the invention at all. This can hardly be seen as an objective of the law. Rather, historically the reverse

120 Ibid at 332.
122 Sanofi, supra note 93 at para 65; See also Conor, Ibid, (referring to the notion as an “oxymoronic concept” at 28).
appeared to be the case. In Re, I.G. Farbenindustrie A.G.’s Patents, Maugham J. colourfully expressed no interest in scrutinizing the inventive path:

The Court is concerned, so far as subject matter is concerned, only with the results. The invention must, of course, add something of substantial character to existing knowledge; but the Courts do not inquire into the way in which the conquest was achieved. If the language of metaphor may be used, the citadel may be captured either by a brilliant coup-de-main or by a slow and laborious approach by sap and mine according to the rules of the art; the reward is the same. The language used by eminent judges in analogous cases supports the same view (see Taylor & Scott v. Annand, (1901) 18 R.P.C. 53, at pp. 62-3; Lancashire Explosives Co. Ltd. v. The Roburite Explosives Co. Ltd., (1895) 12 R.P.C. 470 at p. 475).\textsuperscript{123}

The obvious to try test impedes the one thing the law of patents is trying to encourage – the pursuit of improvement. If a patent can be invalidated because a court can muse that a skilled person would have tried a certain favourable experiment, what encouragement does an inventor have to try any experiments if the “obvious to try” Sword of Damocles can drop at any given moment to invalidate the patent?\textsuperscript{124}

Moreover, the power to determine if an experiment was obvious with a likelihood of success is not entirely vested with the judiciary. Because the exercise of obviousness is to be conducted through the lens of the person of ordinary skill in the art, an additional unknown element has entered into the assessment.

\textit{The Person of Ordinary Skill with Extraordinary Influence}

Critical to an obviousness assessment is the fictional person of ordinary skill in the art of the invention. In any patent proceedings, before an assessment of the invention can take place, the \textit{Sanofi} rubric mandates that a court identify the notional person as the first task. It is

\textsuperscript{123}[1930] 47 RPC 289 at 322 (Ch).

\textsuperscript{124}The Sword of Damocles is a Greek legend wherein King Dionysius II of Syracuse offered Damocles, his courtier, an opportunity to be king. However, Dionysius had arranged for a sword to hang above the throne, held there by a single hair of a horse tail. When Damocles accepted he was forced to sit beneath the sword in constant fear.
this initial “hypothetical frame of reference” that has been the subject of much judicial verbiage.

It is the person of ordinary skill, not a court or jury, that must scrutinize an invention for obviousness. Cases introducing the fictional character emphasize a number of baseline principles. This hypothetical person is ordinary, lacks imagination, lacks inventiveness or intuition and has no benefit of foresight and no assurance of success.

Notwithstanding these unflattering characteristics, the person skilled in the art is said to possess “common general knowledge.” Moreover, the fictional person is expected to keep up with the literature in the field of the invention. As Justice Hughes of the Canadian Federal Court described “[w]hile fictionally such person is unimaginative and un inventive, that person is reasonably diligent in keeping up with developments in the area. That person continuously evolves and grows. That person is not the lowest common denominator of the group, but the ordinary or average person.”

While it might be argued that the person of ordinary skill nobly represents the public’s interest in insuring the integrity of the patent bargain, a closer examination reveals the fictional construct is simply an interpretative tool for the judiciary. Indeed, Lord Justice Hoffmann writing for the majority in the UK Court of Appeal decision of Société Technique de Pulverisation Step v Emson Europe Ltd, not only admits the use of the ordinarily skilled person as a tool, but is quite critical of its function:

The test for obviousness is said to be whether the alleged inventive concept is something which would have been obvious at the priority date to a skilled man, aware of what was known or used at the time and of common general knowledge in the art but lacking in inventive imagination. Like Oliver L.J. in Windsurfing International Inc. v. Tabur Marine (Great Britain), Ltd., [1985] R.P.C. 59, I am sceptical of the value of the varied cast of imaginary and

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128 Beecham, supra note 81 at 294 (FCA).
129 Beloit, supra note 82 at 294.
130 Eli Lilly and Co v Marzoe Chemicals Ltd (1977), 37 CPR (2d) 3 at 32, [1977] 2 ACWS 485 [Marzoe].
132 Janssen-Ortho, supra note 89 at para 114.
sometimes improbable people, once described by Lord Raddiffe as “anthropomorphic conceptions” (Davis Contractors Ltd. v. Foreham U.D.C. [1956] A.C.696, 728) which the law has invented to embody concepts like reasonableness, business efficacy, lack of inventiveness and even parental concern with children proposed for adoption. They may have seemed a folksy way of explaining the law to a jury but I think it is more useful to try to analyse the concepts themselves.\footnote{\textit{Emmon, supra} note 37 at 319.}

What is problematic about invoking a fictional construct to assess the quality of an invention is that the analysis invites error. This fear was explicitly expressed in the United States by Justice Learned Hand in a particularly apt passage:

The test of invention is the originality of the discovery, and discovery depends upon the mental act of conceiving the new combination, for substantially every invention is only a combination. Nothing is more illusory, as nothing is more common, than to assume that this can be measured objectively by the magnitude of the physical readjustments required. Courts never tire, or at least in earlier times they never did, of expatiating upon the freshness of insight which observes a little, but fruitful, change which had theretofore escaped detection by those engaged in the field. When all is said, we are called upon imaginatively to project this act of discovery against a hypostatized average practitioner, acquainted with all that has been published and all that has been publicly sold. If there be an issue more troublesome, or more apt for litigation than this, we are not aware of it.\footnote{\textit{Air King, supra} note 104 at 162.} \footnote{\textit{Marzone, supra} note 130 at 33-34.}

Two broad problems emerge with regards to the skilled person analysis. The first issue is rather grim in outlook. The reality of the situation is the judiciary can never assess a patent from this notional perspective. It is an impossible task that cannot be repaired. Because the courts saw fit to time travel and muse as to whether—\textit{at that time}—an invention would have been obvious, the analysis will always be tainted with hindsight. There is no legal checklist that can prevent against it. “As has been said, 20-20 hindsight is a common commodity.”\footnote{See e.g. British Westinghouse Electric and Manufacturing Co Ltd v Braulik, [1910] 27 RPC 209, (“ex post facto analysis of invention is unfair to the inventors, and in my opinion it is not countenanced by English Patent Law” at 250); Non-Drip Measure Company, Limited v Stranger’s Limited et al, [1943] 60 RPC 135, (“nothing is easier than to say,”}}
The second problem that arises out of the use of a notional character is the means by which the judiciary manufacturers the perspective in each case. Unlike other assessments, such as the reasonable person standard, judges cannot readily assume the perspective of the person ordinarily skilled in the art at a specific past time. Ironically, the courts have turned to experts to provide guidance on what is, or would have been, ordinary.

Yet an expert is no better equipped to guard against hindsight either. As Justice Hugessen wrote for the Canadian Federal Court of Appeal, “[e]very invention is obvious after it has been made, and to no one more so than an expert in the field. Where the expert has been hired for the purpose of testifying, his infallible hindsight is even more suspect.” What further complicates matters is the fact that the expert is not testifying about facts; the expert is effectively making submissions on what the state of the art was at a given time—inclusive of the thinking at the time. Because it is impossible to give a definitive answer as to what the thinking was at the time, obviousness cases transform from a legal debate, into a battle of experts. This consequence further invites error. For instance it is possible that judges fall into the trap of reviewing the patent not from the perspective of the person skilled in the art, but from the perspective of the inventor, retelling the art at the time of invention.

Although spoken in the context of a non-mechanical patent trial, the words of Justice Muldoon of the Canadian Federal Court in the decision of Unilever PLC v Procter & Gamble Inc are perhaps the most descriptive of the frustration encountered by the judiciary in obviousness cases when dealing with experts who battle to convince a judge their version of the past is most accurate:

after the event, that the thing was obvious and involved no invention” at 142; Hickton’s Patent Syndicate v Patents and Machine Improvements Company Ltd [1909] 26 RPC 339 at 347

To say that the conception may be meritorious and may involve invention and may be new and original, and simply because when you have once got the idea it is easy to carry it out, that that deprives it of the title of being a new invention according to our patent law, is, I think, an extremely dangerous principle and justified neither by reason, nor authority.

137 Beloit, supra note 82 at 295.

When one considers the apparent silliness of trial by a judge who is utterly unschooled in the scientific substance of a patent, hearing conflicting testimony of so-called experts who speak the antithesis of scientific verity, and lawyers who have been engaged in the particular case for years before the trial, one knows that this field cries out for reform. It wastes the scarce resources of the Court, which is not configured for getting at the truth of arcane scientific contradictions. A judge unschooled in the arcane subject is at difficulty to know which of the disparate, solemnly mouthed and hotly contended "scientific verities" is, or are, plausible. Is the eminent scientific expert with the shifty eyes and poor demeanour the one whose "scientific verities" are not credible? Cross-examination is said to be the great engine for getting at the truth, but when the unschooled judge cannot perceive the truth, if he or she ever hears it, among all the chemical or other scientific baffle-gab, is it not a solemn exercise in silliness? Reform is much needed in the field of non-mechanical patents' litigation.139

This is not to paint with a broad stroke. A great many experts embrace their role as an aid to the Court and perform their duty admirably.140 The problem does not lie with the experts per se, rather, the issue arises as a result of an uncertainty within the law. A revision of the approach to obviousness may alleviate these uncertain pitfalls.

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139 (1993), 47 CPR (3d) 479 at 488-499, 38 ACWS (3d) 1230.
140 See e.g. Laboratoires Servier v Apotex Inc, 2008 FC 825 at paras 38-39.
SECTION IV: RESTORING CERTAINTY & BALANCE WITH REVISION

The Case for Obviousness

The above is not meant to dismiss the need for the obviousness doctrine. The doctrine has value and, although flawed by uncertainty, the criterion provides a necessary service when determining whether an invention merits patent protection.

Not all creations warrant the grant of a monopoly. The law of anticipation, for instance, ensures no monopoly is granted where the impugned invention is a duplicate of an invention already in existence. As a result, an invention is said to be anticipated where a person skilled in the art can look at a singular piece of prior art and, after reviewing it, is enabled to arrive at the impugned invention.\textsuperscript{141} In simplistic terms, a patent will not be granted for an invention if another creation already foretold the invention’s existence. Similarly, the obviousness doctrine serves a broader objective.

The obviousness doctrine prevents a patent from being granted where the invention is simply a trivial advancement invoking common general knowledge; such inventions are unworthy of the generous monopoly afforded by a patent. In these circumstances, the inventor is attempting to cheat the patent bargain by attempting to gain a valuable monopoly for less than the necessary consideration. Such a manipulation of the arrangement is not ideal. Insightful are the words of the United States Supreme Court in 1883 in \textit{Atlantic Works v Brady} when the Court explained the possibilities that could result if the laws are not interpreted vigilantly with a view to upholding the bargain between inventor and the public:

It was never the object of those laws to grant a monopoly for every trifling device, every shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufactures. Such an indiscriminate creation of exclusive

\textsuperscript{141} Samofi, supra note 93.
privileges tends rather to obstruct than to stimulate invention. It creates a class of speculative schemers who make it their business to watch the advancing wave of improvement and gather its foam in the form of patented monopolies which enable them to lay a heavy tax upon the industry of the country without contributing anything to the real advancement of the art. It embarrasses the honest pursuit of business with fears and apprehensions of concealed liens and unknown liabilities to law suits and vexatious accountings for profits made in good faith.\textsuperscript{142}

At its core, the law does not wish to bestow a monopoly for simply patenting what was already known. From a policy perspective, the non-obviousness requirement seeks to protect the common general knowledge from exploitation.

The issue is not whether obviousness is necessary; rather, the concern is whether the current obviousness regime is fulfilling its purpose of insuring the patent bargain remains a fair exchange between an inventor and society. The bargain, as a metaphorical exchange to further innovation, is not at risk. In fact, the exchange between an inventor and society will continue to spur innovation. However the execution of the bargain, in its current state, is unfair. The law does not create ideal conditions due to the immense uncertainty arising out of its application. It is submitted that although the overall exchange envisioned by the bargain theory remains intact, it cannot be considered a sound premise for patent law, with unfairness embedded in its application—revision to the obviousness criterion is necessary.

The requirement of a time travel exercise to determine the mindset of the inventive world at a particular time (i.e. the assessment of a potential inventive step) is highly problematic. While other facets of patent law incorporate a person skilled in the art to determine an outcome, the exercises are not as excessive. For instance, with infringement or novelty, the person skilled in the art is called upon to interpret a tangible document or a piece of prior art. Contrast to an obviousness assessment where the person skilled in the art is called upon not only to interpret documentation but also to extrapolate and assert what was and was not common general knowledge at a specific period in time.

\textsuperscript{142} Atlantic Works v Brady, 107 US 192 at 200, 2 S Ct 225.
Furthermore, no other patent assessment attempts to retroactively ask what human behaviour would have been in the past (i.e. the obvious to try assessment). Indeed, the obviousness doctrine in its current state represents a unique area of the law where instead of aiding the patent bargain, the current exercise damages the bargain by not clearly defining the lines between a "trivial advance and genuine outside-the-box-thinking". As a result, in an effort to protect the common general knowledge, the law of obviousness sacrificed certainty in its application. Such a sacrifice, however, was not necessary as it is possible to administer an obviousness assessment that protects the commons while still maintaining certainty in the law.

**A Combined Solution**

The overarching problem that plagues the obviousness assessment is the lack of predictability. Granted, each patent case has unique facts preventing true predictability; however, the law as it stands, contains a leap of faith. The law relies on a fictional character to answer an impossible question (i.e. at a point in time devoid of hindsight, was an invention obvious?).

From a review of the above, the law of obviousness is in need of a practical baseline – a clear line that divides what is and is not patentable. It is submitted that the law already contains such a dividing line, albeit underdeveloped.

The law of patentable subject-matter as it pertains to combinations represents a clear standard for which patents can be invalidated. With the exception of new discoveries, all inventions are, at a basic level, a combination of already known parts. Courts have allowed such combinations but with a notable exception. In *Lightning Fastener Co v Colonial Fastener Co*, Justice Rinfret of the Supreme Court of Canada justified the exception because the excluded combinations represented no form of inventive ingenuity:

> No doubt in almost every patent for mechanical combination the elements are old. But merely putting two things together is not a combination patentable in

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143 *Vaver, supra* note 2 at 330.
law. The resulting article may be new in a sense and it may be useful, but the combination is not an invention simply because it possesses advantages not produced before (See dictum of Lord Halsbury in *Morgan v. Windover & Co.;* and *Harwood v. Great Northern Ry. Co.; Riekmann v. Thierry*).

We do not say that there was no merit in the new combination, but we do not think it was a combination to support a patent, because there was no real step by way of invention within the meaning of the patent law (*Wood v. Raphael*).

Having regard to the state of knowledge at the time of the application, we agree with the learned President of the Exchequer Court that the improvement did not require such exercise of the inventive faculty as would justify the granting of a monopoly. (*Durable Electric Appliance Co. Ltd. v. Renfrew Electric Products Ltd.; Atlantic Works v. Brady*).\(^{144}\)

Under this principle, the “mere aggregation or a juxtaposition of known contrivances” will not suffice—put another way, it is not inventive.\(^{145}\) An invention that is a combination of old parts will only be deemed inventive provided the combination forms something new and useful.\(^{146}\) The constituent parts combined cannot simply form a single product possessing the advantages of two previous inventions; rather, the parts must produce an invention independent of its old uses.\(^{147}\) Though a wheel and rope may be two independent pieces of prior art, each possessing individualized advantages, the combination of the two to form a pulley achieves a new product that provides a new advantage—worthy of the label, ‘inventive’. For these acceptable inventions, the inventive ingenuity lies in the combination

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\(^{144}\) *Lightning Fastener, supra note 69 at 376 [citations omitted].

\(^{145}\) *Ublenmann, supra note 72 at 150.*

\(^{146}\) *See e.g. Riddell v. Patrick Harrison & Co., [1956] Ex CR 213 at 233, 28 CPR 8.*

And I reject the suggestion that the invention was an obvious workshop improvement because the use of some of the elements of the combination may have been obvious. Such a conclusion is unwarranted. The question is not whether the use of any particular element was obvious but whether the use of the combination was obvious. The danger involved in determining the obviousness or otherwise of a combination by ascertaining whether the use of each of the elements was obvious was pointed out by Lord Justice Greene, in delivering the judgment of the Court of Appeal in *Albert Wood and Amcolite v. Gowsball Ltd.* (1937), 54 R.P.C. 37. There he said, at page 40:

> The dissection of a combination into its constituent elements and the examination of each element in order to see whether its use was obvious or not is, in our view, a method which ought to be applied with great caution since it tends to obscure the fact that the invention claimed is the combination. Moreover, this method also tends to obscure the facts that the conception of the combination normally governs and proceeds the selection of the elements of which it is composed and that the obviousness or otherwise of each act of selection must in general be examined in the light of this consideration. The real and ultimate question is: Is the combination obvious or not?

of old pieces to create something that not only produces a new advantage but also is new in the sense that the combined pieces form a product beyond what was already known, i.e. “the working interrelation brought about by the collocation of the integers”.148

Although it has been argued that government is best suited to reform the laws of obviousness and combinations, such drastic measures may not be necessary. On review, the framework already exists for the law to adapt. The obviousness assessment allows for a mosaicing of prior art. Rather than pointing to one piece of prior art, as the law of anticipation does, a patent can be invalidated by the piecing together of multiple prior art references.149 So long as the references would have been obvious to review together, the law allows for a patent to be invalidated should the references, taken together, lead to the impugned invention.150

Under the current legal landscape, mosaicing is more than just a strict combination of prior art. It is suggested, however, that a stricter approach be applied to the exercise of mosaicing so as to create greater certainty within the realm of obviousness. It is suggested that the obviousness assessment allow for mosaicing only by way of strict combinations to invalidate patents.

In practical terms, the current regime of mosaicing allows for the invalidation of a patent in circumstances where A (prior art #1) + B (prior art #2) leads to C (impugned invention). Under a refined version of obviousness, only circumstances where A (prior art #1) + B (prior art #2) strictly combine to produce C (impugned invention), can an invention be invalidated for obviousness. By applying a strict interpretation to the exercise of mosaicing and adopting the combinations standard as the new obviousness baseline, much of the uncertainty associated with the obviousness doctrine is removed.

148 British Celene Ltd v Courtaulds Ltd (1935), 52 RPC 171 at 193, 152 LT 537.
150 Mills, supra note 36 at 193.
151 Eli Lilly & Co v Apotex Inc 2009 FC 991 at 419, 80 CPR (4th) 1.
As an example, consider eating utensils. For the sake of illustrating the larger point, assume the only prior art that exists in the world of eating utensils are knives, spoons and forks. Under a revised obviousness analysis, the mere combination of any of these three prior art references would fail. A fork with a spoon attach to the other end would simply be a juxtaposition of known parts each still serving its original function and neither combining to form a new and useful creation. However, were the parts combined to form a newly claimed product, a “Spork”, wherein the head of a spoon contained three jagged incisions at the tip, the outcome would be a new utensil—albeit comprised of the knowledge of the prior art.\footnote{Compare the dead Canadian Patent Application, CA 2631288, for a “telescoping eating utensil” with the United States “Spork,” US Patent No 388664, (9 December 1996).} Under a revised obviousness analysis, the “Spork” is not a strict combination of known constituent parts and would therefore be deemed a valid invention worthy of patent protection.

Rather than speculating about the thinking of inventors at a specific point in time, a judge is literally tasked with piecing together pieces of a puzzle. If the pieces do not match, i.e. the prior art references do not strictly combine to form the impugned invention, the invention should then be deemed non-obvious.

Under this revised approach, the common general knowledge is still preserved. Because the new threshold would demand the claiming of a new creation born out of the combined parts —i.e. something possessing a new novelty and new utility beyond the prior art references combined— the common general knowledge is advanced.

This approach would eliminate much of the variables that created uncertainty in the obviousness doctrine. Although the person skilled in the art is still called upon, there is no need to lobotomize the fictional character. The test becomes objective since an invention would only be scrutinized on the standard of whether the parts were simply combined to form the impugned invention. Whether or not such a combination would have been obvious to try is rendered irrelevant, since the focus is only to prevent patents on creations that are just strict a combination or juxtaposition of prior art pieces.
Moreover, there is very little room for experts to manoeuvre within. Instead of being able to argue that something would have been obvious given the knowledge inferred from the prior art, the role of the expert would be to scrutinize the impugned invention to see only if it is comprised of separate, juxtaposed, constituent parts, or, on the other hand, if it is an independent creation.

Most importantly, however, the highly problematic hindsight variable is eliminated. Courts do not need to embark on a time travel expedition in order to ascertain if an invention is merely a juxtaposition of old parts. The strict combinations analysis does not call for a retrospective review – the parts either combine or they do not.

The revision would not call for any significant overhaul of the law. Rather, courts would apply the law and language with a view to preventing clear combinations. An obvious invention would therefore be any creation that is a strict juxtaposition of prior art that does not combine to form an independent new and useful product. Such exclusion under these parameters would give clear guidance on what the law considers non-obvious, and what it deems an exercise of inventive ingenuity.

It is acknowledged this suggested revision would considerably widen the scope of patentability. However in the larger scheme, a narrow approach to the law of obviousness may not be detrimental. To expand the metaphor, the patent bargain would acquire terms and conditions with a new level of certainty. An inventor is given clear boundaries for which an invention will be given a precious monopoly. It must be new, useful and not simply be a juxtaposition of prior art.

While more patents will be deemed valid and there may be a rush to the patent office, the notion that innovation will be paralyzed is an over-simplification of the innovative world; more patents do not necessarily equal less innovation. More patents can mean more incentive for inventors to create; it can also translate into an incentive to explore new technologies in an effort to avoid patent infringement. The law of patents should not be paralyzed by speculation of possible implications. It is speculation and uncertainty that is the primary issue with the law.
CONCLUSION

It is very easy to review the law and simply remark “this needs fixing” or “this area should not exist.” It is not the intention of this piece to invalidate or discount the lengthy history of the doctrine of obviousness. The law of patents will remain a work in progress so long as the world continues to innovate.

The impetus of this paper was the pursuit of good law. Good law is fair and above all else, clear. The law of obviousness as it currently stands lacks in both categories. While the degree to which the law is perceived unfair or unclear is debatable, the fact remains the field requires improvement.

A review of the law in several jurisdictions revealed that the law of obviousness does not provide clear boundaries to inventors on what will be considered inventive. Instead, there is a cloud of uncertainty hanging over inventions in the form of a retrospective review on what a fictional person would perceive as obvious – or worse – obvious to try. The law lacks definition. Rather than approach the matter with clear boundaries, the legislatures have thrust the responsibility to the judiciary in an attempt to remedy the void. The result, however, has been multi-prong tests that still contain the same uncertainty issues, albeit structured.

It is proposed that in order to create stability and clarity, the law of obviousness must embrace the law of combinations. Under this rubric, the law of obviousness would gain a clear dividing line on what is and what is not patentable. The suggested revision may result in the increase in patents granted and upheld, but such a consequence does not impact the patent bargain between an inventor and society.

It is the finding of a perfect balance between restriction and freedom that all good law must strive toward. Ultimately the law of patents, inclusive of the doctrine of obviousness, must be fashioned and administered in a manner that respects the quid pro quo that has guided the law for many years.