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"Obviousness: different paths through Scylla and Charybdis"

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The familiar requirement, that for the purposes of a standard patent "a patentable invention ... involves an inventive step"¹, regularly gives rise to discussion about the theory and policy considerations underpinning patent law.

Undoubtedly there are many reasons for this, but let me mention the broad reason upon which I will concentrate in this paper. The standard of inventiveness set by the legislation and expressed in judicial decisions construing and applying that legislation, has a significant impact on innovation and investment. In the context of the verity that inventiveness and obviousness are antitheses², it has been recognised frequently that obviousness is the tipping point, at which is balanced the competing rights of inventors on the one hand, and industry and indeed society at large, on the other.

¹ *Patents Act* 1990 (Cth) s 18(1).

² *Beecham Group Ltd's (Amoxicillin) Application* [1980] RPC 261, 290 (Buckley LJ) (CA).

This point was restated relatively recently by Pumfrey J in *Glaxo Group Ltd's Patent*³:

"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 decomposed 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."

This raises a very familiar conundrum in patent law which is: what is the standard of inventiveness (or obviousness) which achieves the right balance and best reflects a policy of rewarding invention without inhibiting improvements in the relevant art?

During the last three decades the standard, test or criterion of inventiveness (or obviousness) has possibly been the most highly contested issue in patent law both here and elsewhere. Some debate continues as to whether the standard in Australia is, in a relative sense, more favourable to the patentee than may be desirable⁴ or too low⁵.

³ [2004] RPC 843, 858 [41]. See also *Société Technique de Pulverisation Step v Emson Europe Ltd* [1993] RPC 513, 519 (Hoffmann LJ).

⁴ Kim O'Connell and Julian Coote, *Australia: A Patentee's Paradise* (2003) 25 *European Intellectual Property Review* 481, 486.

⁵ Ann Monotti, *Australia: Patents — Inventive Step* (2007) 29 *European Intellectual Property Review* N105, N106.

The very phrases we use to describe the conundrum reflect its difficulties because one always needs to ask "more favourable" or "too low" from which vantage point.

Related questions to ask are: "what do we make of the increasingly clear divergence between the United Kingdom and Australia on these standards?" and "how will the overhaul of patent legislation, now in its final phases in the United States of America⁶ position America in relation to the divergence between Australia and the United Kingdom?"

Let me "backtrack" for a moment to the historical emergence of obviousness as a separate requirement for patentability. In *Tatham v Dania*⁷ Willes J noted that a patentee needed to show⁸:

"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 *some exertion of mind that could properly be called invention.*" (emphasis added)

Perhaps even more familiar will be the observations by Tindal CJ concerning the patentability of combinations in *Crane v Price*⁹ in which the defence was that the patent was invalid because it did not involve an inventive step. It was recognised that a combination of what was

⁶ *Patent Reform Act of 2007*, HR 1908, 110th Cong (2007), passed on 7 September 2007, which amends the *Patent Act of 1952*, 35 USC. The bill has been placed on the calendar of the United States Senate.

⁷ (1869) Griffin Pat Cas 213.

⁸ (1869) Griffin Pat Cas 213, 214.

⁹ (1842) 1 Web Pat Cas 393.

known, which was new and useful, could involve sufficient inventiveness to become good subject matter for a patent¹⁰.

There are many other instances of cases¹¹ in the last third of the 19th century in which judges recognised that in addition to novelty, that is the issue of anticipation, it was also necessary to ask whether an alleged invention was in fact "ingenious" or "inventive". An invention was not ingenious or inventive if it were "so easy that any fool could do it"¹², a phrase which has the same pithiness as the aphorism "it's as plain as the nose on your face."

Those quotations from decisions in the last third of the 19th century are sufficient in a short paper like this to demonstrate the way in which the requirement of "ingenuity" or "inventiveness" sprang from novelty, from which, at first, it was not necessarily clearly distinguished¹³.

In the view of at least one contemporary commentator, "ingenuity" or "inventiveness" arose in the late 19th century as a patentability requirement, separate from novelty, "as a brake upon the too rapid progress of patents for analogous uses"¹⁴. The Industrial Revolution in

¹⁰ *Crane v Price* (1842) 1 Web PC 393, 409 (Tindal CJ).

¹¹ *Britain v Hirsch* (1888) 5 RPC 226, 232 (Cotton LJ); *Cole v Saqui* (1888) 6 RPC 41, 44 (Lindley LJ).

¹² *The Edison Bell Phonograph Corporation v Smith* (1894) 11 RPC 389, 398 (Lord Esher MR).

¹³ James Roberts, *The Grant and Validity of British Patents for Inventions* (1903) 34–39.

¹⁴ Lewis Edmunds, *The Law and Practice of Letters Patent for Inventions* (2nd ed, 1897) 84.

England, generally seen as occurring between 1780 and 1850, maintained a momentum of its own such that reports of patent cases in the last third of the 19th century are full of cases concerning mechanical inventions, often of commonplace articles, where inventiveness is the main issue.

From the first real appreciation that some inventiveness was required in addition to novelty, two things were clear. First, inventiveness was a question of fact to be determined by reference to the state of prior art. Secondly, commercial success (commonly referred to now as a secondary consideration) could constitute evidence of ingenuity, although this was not uniformly so¹⁵.

The emerging emphasis on ingenuity in the last third of the 19th century was perceived as rooted in public debates over monopolies in the early part of the 17th century. Section 6 of the Statute of Monopolies, enacted in 1623¹⁶, only allowed monopolies for "any manner of new manufacture". In exercising the royal prerogative to grant such a monopoly the sovereign was expected to only do so when the good to be obtained from the grant of the monopoly "overbalanced the evil arising from a restraint of trade"¹⁷.

¹⁵ *Gosnell v Bishop* (1888) 5 RPC 151, 158 per Bowen LJ.

¹⁶ 21 Jac 1, c 3.

¹⁷ Lewis Edmunds, *The Law and Practice of Letters Patent for Inventions* (1897) 5.

In Tudor times, monopolies fell into two classes: those granted in return for the introduction or invention of a new trade or article and those granted to courtiers, for example, in restraint of trade in articles already known. The former were unobjectionable only so long as they were limited in time and were defensible "as an encouragement and reward for ingenuity, work, or expense incurred producing an addition to the material wealth of the nation"¹⁸. The latter form of monopoly was denounced by Coke as against "the common law and the commonwealth"¹⁹. That cursory account of the philosophical objections to monopolies granted by the sovereign explains the verbiage in s 6 of the Statute of Monopolies, the meaning of which endures in legislative definitions of a "patentable invention"²⁰.

The perception that the Statute of Monopolies' grant of a temporary monopoly was a reward for ingenuity was described by a late 19th century writer as follows²¹:

"[I]t must have been early seen that in order to truly determine the newness of a manufacture, the essence of the invention must be regarded".

Once minds were turning to "the essence of the invention" it was inevitable that the question of the *quantum* of ingenuity necessary to support an invention came into prominence. These thoroughly familiar

¹⁸ Lewis Edmunds, *The Law and Practice of Letters Patent for Inventions* (1897) 5.

¹⁹ Coke, *Institutes* (1628) vol 3, 182.

²⁰ *Patents Act* 1990 (Cth) s 18(1)(b).

²¹ Henry Cunynghame, *English Patent Practice with Acts, Rules, Forms and Precedents* (1894) 74.

matters are worth recalling for three reasons. First, inventive step and obviousness were control mechanisms intended to ensure that "worthless" or "weak" patents were not granted as these would inhibit the development of improvements well within the abilities of skilled but non-inventive persons in the relevant art. Secondly, they highlight the radical nature of the provisions governing the determination of inventive step and obviousness which are now to be found in the *Patents Act 1977* (UK). Thirdly, those matters illuminate the divergence in case law which now exists between Australian law and the law of the United Kingdom on the topic of inventive step.

As recognised in *Aktiebolaget Hässle v Alphapharm Pty Ltd*²² ("*Alphapharm*"), the term "obvious" first appeared in the United States, United Kingdom and Australian legislation after detailed judicial exegesis over many years²³. More recently, legislatures in the United Kingdom and Australia have, in different ways, laid down modernised conceptual frameworks for determining inventiveness and obviousness which are explicitly intended to ensure that patents will not be granted without discernible inventiveness over prior art.

This has involved shifts (though not to the same degree) from questions of the quantum of inventiveness to questions of the quality of inventiveness. We have all followed with great interest the jurisprudence which followed the passage of the *Patents Act 1977*

²² (2002) 212 CLR 411.

²³ *Alphapharm* (2002) 212 CLR 411, 428 [36] (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

(UK), the *Patents Act* 1990 (Cth) as amended by the *Patents Amendment Act* (2001) (Cth) and the recent passage of the *Patent Reform Act of 2007*²⁴ by the United States House of Representatives.

However, Judge Learned Hand's Proustian lament that obviousness was as "fugitive, impalpable, wayward, and vague a phantom as exists in the whole paraphernalia of legal concepts"²⁵ still seems penetrating, although he said that two years before a requirement for "non-obvious subject matter" was first introduced in the *Patents Act of 1952*²⁶.

Historical considerations concerning the development of the requirement of an inventive step and obviousness in Australia were canvassed in *Alphapharm*²⁷ and have been restated briefly in *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)*²⁸ ("*Lockwood v Doric (No 2)*"), for which reason I will not labour the detail today.

In a line of decisions, *Minnesota Mining and Manufacturing Co v Beiersdorf (Aust) Ltd*²⁹ ("*Minnesota Mining*"), *R D Werner & Co Inc v Bailey Aluminium Products Pty Ltd*³⁰ and *Alphapharm*³¹, Australian

²⁴ HR 1908, 110th Cong (2007). See above n 6.

²⁵ *Harries v Air King Prods Co*, 183 F 2d 158, 162 (2nd Cir, 1950).

²⁶ *Patents Act of 1952*, 35 USC § 103.

²⁷ (2002) 212 CLR 411, 427ff [33]ff (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

²⁸ (2007) 235 ALR 202, 213ff [38]ff.

²⁹ (1980) 144 CLR 253.

³⁰ (1989) 25 FCR 565.

³¹ (2002) 212 CLR 411.

judges have explicated the difference between novelty and inventiveness³² and the justification for a self-standing legislative requirement of an inventive step.

More recently in *Lockwood v Doric (No 2)*³³, the High Court restated the centrality of the inventive step requirement to the balancing of policy considerations in the following general terms:

"The emergence of the independent requirement for an inventive step, first in case law, then in legislative requirements for patentability as occurred in the United Kingdom, the United States and Australia, has always reflected the balance of policy considerations in patent law of encouraging and rewarding inventors without impeding advances and improvements by skilled, non-inventive persons."

The balancing of policy considerations to which the court adverted influenced the *Patents Amendment Act* 2001 (Cth) the detail of which I will come to later. It is not contested that these amendments "raise[d] the barrier for the patentee"³⁴. They were intended to increase the likelihood that patents which were granted were valid and to bring the requirements of "inventive step" and novelty into alignment with international standards³⁵. The detailed history of the amendments and discussion of them can be found in the usual texts³⁶.

³² (2007) 235 ALR 202, 214 [41].

³³ (2007) 235 ALR 202, 216 [48].

³⁴ Lahore, *Patents, Trademarks and Related Rights*, vol 1 (at service 121) [12,822].

³⁵ Lahore, *Patents, Trademarks and Related Rights*, vol 1 (at service 117) [5098].

³⁶ Jill McKeough, Kathy Bowrey and Philip Griffith, *Intellectual Property: Commentary and Materials* (4th ed, 2007) 401–437; *The*

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Raising the barrier for the patentee had already occurred, although somewhat differently, in the United Kingdom with the introduction of the *Patents Act* 1977 (UK), particularly s 3. These changes have also been discussed in numerous textbooks³⁷.

Essentially membership of the European Economic Community obliged an alignment of domestic patent law with relevant European Conventions which involved rebalancing the relevant policy considerations. For present purposes, I put to one side the fact that there are observable differences between s 3 of the *Patents Act* 1977 (UK) and Article 56 of the European Patent Convention on which it is based³⁸.

Australian Digest (3rd ed, 2007) vol 33, [1114]–[1120]; Sam Ricketson and Megan Richardson, *Intellectual Property: Cases, Material and Commentary* (3rd ed, 2005) 754–782; Jill McKeough, Andrew Steward and Philip Griffith, *Intellectual Property in Australia* (3rd ed, 2004) 354–365; Barry Fox, *Patents: A Guide* (2003) 119–120, 156–165; Lahore, *Patents, Trade Marks and Related Rights*, vol 1 (at service 121) [12,810]–[12,910]; *Halsbury's Laws of Australia*, vol 15 (at service 248) [240–5330]–[240–5340].

³⁷ Simon Thorley et al, *Terrell on the Law of Patents* (16th ed, 2006) 238–279; Tina Hart, Linda Fazzani and Simon Clark, *Intellectual Property Law* (4th ed, 2006) 33–39; Lionel Bently and Brad Sherman, *Intellectual Property Law* (2nd ed, 2004) 469–487; William Cornish and David Llewellyn, *Intellectual Property: Copyright, Trade Marks and Allied Rights* (5th ed, 2003) 191–206.

³⁸ Simon Thorley et al, *Terrell on the Law of Patents* (16th ed, 2006) 239 [7–43].

Sir Donald Nicholls VC explained the effect of s 3 of the *Patents Act* 1977 (UK) in *Mölnlycke AB v Procter & Gamble Ltd (No 5)* when he said³⁹:

"Under the statutory code ... the criterion for deciding whether or not the claimed invention involves an inventive step is wholly objective. It is an objective criterion defined in statutory terms, that is to say whether the step was obvious to a person skilled in the art having regard to any matter which forms part of the state of the art as defined in section 2(2). We do not consider that it assists to ask whether 'the patent discloses something sufficiently inventive to deserve the grant of a monopoly'. Nor is it useful to extract from older judgments expressions such as 'that scintilla of invention necessary to support a patent'. The statute has laid down what the criterion is to be: it is a qualitative not a quantitative test."

Section 2(2) of the *Patents Act* 1977 (UK) defines the "state of the art":

"[It] shall be taken to comprise all matter (whether a product, a process, information about either, or anything else) which has at any time before the priority date of the invention been made available to the public (whether in the United Kingdom or elsewhere) by written or oral description, by use or in any other way."

The breadth of that description of the base against which inventive step is to be assessed is undeniable. The person skilled in the relevant art in the United Kingdom is expected to be acquainted with all the available prior art.

The topic of "rebalancing" these considerations has also been much discussed in the United States of America⁴⁰ as both the Senate and

³⁹ [1994] RPC 49, 112.

⁴⁰ S Jafar Ali, "You suggest what? How *KSR* returned bite to nonobviousness" (2006) *The Federal Circuit Bar Journal* 247, 271–272; Clara R Cottrell, "The Supreme Court brings a sea change with *KSR International Co v Teleflex Inc*" (2007) 42 *Wake*

Footnote continues

the House of Representatives debated the radical simplification of patent legislation which is now almost concluded.

A major recurring theme in those debates was that the limited monopoly granted by Letters Patent is an exception to the rule that all publicly available information is free to the public for its use⁴¹. In *KSR International Co v Teleflex Inc*⁴² ("*KSR v Teleflex*"), the whole gamut of arguments in relation to a standard or test for obviousness was raised by the parties or intervenors⁴³. The arguments against an obviousness standard which was "easily overcome" included an assertion that such a standard would lead to greater consumer and transactional costs.

It was also contended that "too low" a standard would decrease incentives to seek patent protection, that is respect for the patent

Forest Law Review 595, 626; Steven J Lee and Jeffrey M Butler, "Teaching, suggestion and motivation: *KSR v Teleflex* and the chemical arts" (2007) 17 Fordham Intellectual Property, Media and Entertainment Law Journal 915, 930-932; Steven P Smith and Kurt R van Thomme, "Bridge over troubled water: The Supreme Court's new patent obviousness standard in *KSR* should be readily apparent and benefit the public" (2007) 17 Albany Journal of Science and Technology 127, 148.

⁴¹ Steven P Smith and Kurt R van Thomme, "Bridge over troubled water: The Supreme Court's new patent obviousness standard in *KSR* should be readily apparent and benefit the public" (2007) 17 Albany Journal of Science and Technology 127, 148.

⁴² 127 S Ct 1727 (2007).

⁴³ Steven P Smith and Kurt R van Thomme, "Bridge over troubled water: The Supreme Court's new patent obviousness standard in *KSR* should be readily apparent and benefit the public" (2007) 17 Albany Journal of Science and Technology 127, 149–150.

system would be diluted by the grant of "too many" patents. The third main argument was that a "low" standard would restrain competitors who should be at liberty to use the public storehouse of knowledge.

The main and obvious argument against setting the standard or test "too high" is that truly beneficial inventions, especially simple inventions, may not receive patent protection⁴⁴.

Inasmuch as the amendments in the *Patent Reform Act of 2007* are intended to better balance these competing considerations, obviousness is to be considered as at the effective filing date. The statutory criterion in the proposed amended § 103 (the section cognate with s 3 of the *Patents Act 1977* (UK)) does not refer to inventive step but asks whether:

"the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains."

Leaving aside exceptions, and also fine detail, proposed amended § 102 of the *Patents Act of 1952* 35 USC essentially provides that "relevant prior art" includes prior publication, public use or sale "more than one year before the effective filing date ... or ... one year or less

⁴⁴ Steven P Smith and Kurt R van Thomme, "Bridge over troubled water: The Supreme Court's new patent obviousness standard in *KSR* should be readily apparent and benefit the public" (2007) 17 *Albany Journal of Science and Technology* 127, 152.

before the effective filing date [excepting disclosures deriving from the inventor]" of the claimed invention.

It is now time to mention the current provisions of Australian legislation and the current position in respect of the inventive step established in the cases.

Before doing so, it helps to recap what preceded the current provisions. The *Patents Act* 1952 (Cth) directed attention in the relevant section to "what was known or used in Australia on or before the priority date"⁴⁵. That Act was repealed by s 230 of the *Patents Act* 1990 (Cth) ("the 1990 Act"). The 1990 Act for the first time defined the "prior art base" and "prior art information".

This had the effect of altering the rule, established in *Minnesota Mining*⁴⁶, which excluded the use of prior disclosures which were publicly available, but which were not proven to be part of common general knowledge as at the priority date. The prior art base included information in a document available anywhere in the world and public oral disclosures and actions in Australia.

The *Patents Amendment Act* 2001 (Cth) further expanded the prior art base, against which "inventive step" is assessed, to include public oral disclosures and actions anywhere in the world.

⁴⁵ *Patents Act* 1952 (Cth) s 100(1)(e).

⁴⁶ (1980) 144 CLR 253.

While the current provisions establish a prior art base not unlike the "state of the art" defined in the legislation in the United Kingdom and the prior art defined in the *Patents Act of 1952* 35 USC § 102 (both as it is, and as it will be in its amended form under the *Patent Reform Act of 2007*) the critical provisions in Australia for determining inventive step, are contained in s 7(3). Combinations of more than one piece of prior art information are now allowed if the prior art information existed before the priority date, but more critically, if the information is information that the skilled person could be reasonably expected to have ascertained, understood, regarded as relevant and combined (in the case of a combination of two or more pieces of prior information).

Clearly, that standard for determining an inventive step differs markedly from the standard under the Patents Act 1952 applied in 1980 in *Minnesota Mining*⁴⁷, and explicated in 2002 in *Alphapharm*⁴⁸. Obviousness was formerly tested having regard to what was "known and used"; now is to be tested against what is known and used considered separately or together with "prior art information", the determination of which depends, in part, on the skilled person's opinion of its relevance rather than on the mere fact of its availability.

The current form of s 7(3) refers to information that the skilled person "could ... be reasonably expected to have ascertained, understood,

⁴⁷ (1980) 144 CLR 253.

⁴⁸ (2002) 212 CLR 411.

[and] regarded as relevant" without reference to or qualification by the phrase "to work in the relevant art". This may have the effect that one aspect of the High Court's decision in *Lockwood v Doric (No 2)*⁴⁹ may be seen to be of limited relevance in the future.

However, even allowing for that, *Lockwood v Doric (No 2)* confirms that much of what was said by the majority of the High Court in *Alphapharm* applies to the current law of obviousness in Australia. The divergence between the law on inventive step and obviousness, as "Europeanised", in the United Kingdom and the current law in Australia remains palpable. The most noticeable divergence, confirmed by *Lockwood v Doric (No 2)*, is that a "scintilla of invention" remains sufficient in Australia for an inventive step and must be accommodated within the expansion of prior art in the modernised conceptual framework laid down in s 7(2) and (3). Australian law blends considerations of the quantum and quality of inventiveness.

Further, whilst it is recognised that the "problem and solution" approach mandated in the United Kingdom⁵⁰ is useful⁵¹, the approach has to be applied with care in Australia so as not to exclude inventions

⁴⁹ (2007) 235 ALR 202, 216.

⁵⁰ Discussed in *Alphapharm* (2002) 212 CLR 411, 429 [40] (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

⁵¹ *Australian Patent Office: Patent Manual of Practice & Procedure*, IP Australia [2.5.2.3.1], [2.5.2.3.2.1], [2.5.1.6] <http://www.ipaustralia.gov.au/pdfs/patentsmanual/WebHelp/Patent_Examiners_Manual.htm> at 16 October 2007.

containing a sufficient quantum of inventiveness. In *KSR v Teleflex*⁵², the Supreme Court of the United States of America recently confirmed that more should be considered by the courts and patent examiners than the "problem and solution" approach.

Broadly, the differences between the tests for obviousness in Australia, the United Kingdom and the United States are identified by reference to well understood verbal formulae established by the cases.

In Australia, *Alphapharm* established that under the *Patents Act 1952* (Cth) one needed to ask whether the person skilled in the relevant prior art will "directly be led as a matter of course to try [a particular approach] in the expectation that it might well" achieve a particular result⁵³.

Lockwood v Doric (No 2) did not deal with the question of whether the expanded prior art base as presently defined, and prior art information as determined in accordance with s 7(3), might or could affect the *Alphapharm* test of obviousness or oblige any consideration of a test closer to what is conveyed by the formulae "obvious to try", "worth a try" or "well worth trying out". It is interesting to note that the Supreme Court of America in *KSR v Teleflex*⁵⁴ noted that the "obvious to try"

⁵² 127 S Ct 1727, 1741–1743 (2007).

⁵³ *Alphapharm* (2002) 212 CLR 411, 433 [53] (Gleeson CJ, Gaudron, Gummow and Hayne JJ) quoting *Olin Mathieson Chemical Corporation v Biorex Laboratories Ltd* [1970] RPC 157, 187–188 (Graham J).

⁵⁴ 127 S Ct 1727, 1742 (2007).

approach may well have merit when there are a finite number of solutions. In the United Kingdom the "obvious to try" approach⁵⁵ has been enlarged in *Brugger v Medic-Aid Ltd*⁵⁶ to include not only what was "obvious to try", but also what was "obvious to try" after trying several other obvious approaches. Further, in the United Kingdom the "problem and solution" approach, originating in the *European Patent Convention*⁵⁷, has become well established as a starting point for determining obviousness. The "inventive concept", the first step of the four step process in *Windsurfing International Inc v Tabur Marine (Great Britain) Ltd*⁵⁸ for determining obviousness, is now said to require a patentee "to include some express or implied reference to the problem which it required invention to overcome"⁵⁹.

In a roundabout way that brings me to reflect on the phrase in s 7(3)(b): "information [which a person skilled in the art] could, before the priority date of the relevant claim, be reasonably expected to have ascertained, understood [and] regarded as relevant". I want to put to one side the differences in the tests for obviousness established in the cases, especially by reference to comparison with the tests formulated

⁵⁵ *Johns-Manville Corporations Patent* [1967] RPC 479, 493 (Diplock LJ).

⁵⁶ [1996] RPC 635, 661.

⁵⁷ *European Patent Convention: Implementing Regulations to the Convention on the Grant of European Patents*, opened for signature 5 October 1973, r 27(1)(c) (entered into force 7 October 1977).

⁵⁸ [1985] RPC 59, 73-74.

⁵⁹ *Biogen Inc v Medeva Plc* (1996) 36 IPR 438, 453 (Lord Hoffmann).

and applied in the United Kingdom and the United States, as being more appropriate subject matter for academic commentators than for me. I also want to recognise, without any particular commentary, that the statutory language of s 7(2) and (3), the different but cognate sections in the *Patents Act* 1977 (UK) and the proposed amendment to § 103 (and § 102) in the *Patents Reform Act* 2007 in the United States are all intended to fairly balance the competing policy considerations, to which reference has already been made. It has to be said also that, in line with modern technology, Lord Reid's diligent searcher⁶⁰ is a paradigm with a new lease of life since the broadening of prior art bases, here and elsewhere.

Having established that setting, I would like to revisit a familiar topic which has animated debates about the balancing of policy considerations over the years including the debates here and elsewhere in the last three decades. That is the topic of hindsight and the related topic of secondary evidence.

Hindsight

It is worth asking whether there are any contemporary insights into hindsight which might give judges even greater pause than they have felt so far, or illuminate the mental processes at work when making a judgment affected inevitably by hindsight.

⁶⁰ *Technograph Printed Circuits Ltd v Mills & Rockley (Electronics) Ltd* [1972] RPC 346, 355.

Witnesses are always asked whether they in fact approached the same problem or task as the inventor, or what they would have done had they been faced with the same task, or whether the invention's solution was "routine", given the prior art base.

It is not unreasonable to enquire afresh into contemporaneous understandings about the processes of cognition which bear on hindsight and to reflect on whether new, different or reinvigorated ways to ameliorate the effect of hindsight analysis might be useful, particularly given the precise terms of s 7(3)(b).

The starting point is the received wisdom about hindsight expressed and restated in many textbooks and judgments. Two examples will suffice to show that judges are under no illusions about hindsight.

Consider what Lord Diplock said of hindsight in *Technograph Printed Circuits Ltd v Mills & Rockley (Electronics) Ltd*⁶¹:

"It is improbable that this reconstruction *a posteriori* represents the mental process by which the inventor in fact arrived at his invention".

To similar effect, in *Colgate-Palmolive Co v Cussons Pty Ltd*⁶² Sheppard J of the Federal Court of Australia said of hindsight:

"The important thing to remember and to keep steadily in mind is the danger of applying hindsight. When a court

⁶¹ [1972] RPC 346, 362.

⁶² (1993) 26 IPR 311, 355–356.

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."

The conceptual difficulty of determining an inventive step or obviousness "in the ex ante world just prior to the invention's creation"⁶³ given "the ex post fact that the invention was actually achieved"⁶⁴ has never been doubted.

That is why ameliorating considerations such as commercial success were always important to "give light to the circumstances surrounding the origin of the subject matter sought to be patented"⁶⁵.

This gives rise to the questions of whether we now know more or less about the conceptual difficulties identified by Lord Diplock in 1972 and by Justice Sheppard in 1993 and if we genuinely know or understand more, could that knowledge have any impact on the abovementioned legislative changes?

⁶³ Gregory N Mandel, "Patently Non-Obvious: Empirical Demonstration that the Hindsight Bias Renders Patent Decisions Irrational" (2006) 67 Ohio State Law Journal 1391, 1393.

⁶⁴ Gregory N Mandel, "Patently Non-Obvious: Empirical Demonstration that the Hindsight Bias Renders Patent Decisions Irrational" (2006) 67 Ohio State Law Journal 1391, 1393.

⁶⁵ *Graham v John Deere Co* 383 US 1, 17-18.

Since the mid 1970s numerous studies have been conducted, most particularly by psychologists, to confirm (or deny) that hindsight creates an inevitable bias in human thinking.

These studies have been described by Professor Gregory Mandel of Albany Law School⁶⁶. It will do greater justice to those studies if I quote Professor Mandel's summary of them rather than attempt my own⁶⁷:

"In the seminal study on the hindsight bias, Baruch Fischhoff presented subjects with a scenario describing events leading up to an obscure war in India between the British and the Gurkas of Nepal in the early 1800s. Subjects were provided with four possible outcomes to the scenario: British victory, Gurka victory, military stalemate with no peace settlement, and military settlement with a peace stalemate. The subjects were divided into five groups. One group was not provided any further information (the foresight condition). The four other groups each received a different additional sentence at the end of the event scenario, indicating that one of the four outcomes had occurred (the hindsight conditions). Subjects were then asked to estimate what the ex ante probability had been for each of the four possible outcomes occurring.

The subjects who were informed that a specific outcome had occurred rated the ex ante probability of that outcome as significantly greater than subjects not informed of any outcome, or subjects informed that a different outcome had occurred. Subjects in the hindsight conditions rated their given outcome as 14.7% to 23.4% more likely than subjects in the foresight condition. This difference reveals

⁶⁶ Gregory N Mandel, "Patently Non-Obvious: Empirical Demonstration that the Hindsight Bias Renders Patent Decisions Irrational" (2006) 67 Ohio State Law Journal 1391, 1393.

⁶⁷ Gregory N Mandel, "Patently Non-Obvious: Empirical Demonstration that the Hindsight Bias Renders Patent Decisions Irrational" (2006) 67 Ohio State Law Journal 1391, 1400-1401.

the hindsight bias-knowledge of ex post events changes individuals' perception of ex ante likelihood.

In the decades since Fischhoff's experiment, numerous studies have confirmed the existence of the hindsight bias as a robust and widespread cognitive limitation. These studies demonstrate that the hindsight bias routinely affects both lay and expert judgment in many fields, in both laboratory and applied settings. Examples involving experts in applied settings include physician medical diagnoses and supervisor evaluations of employees. Almost every study that has investigated the hindsight bias has confirmed its existence; a meta-analysis of hindsight bias studies found that 122 out of 128 studies reported a significant hindsight bias effect." (footnotes omitted)

The assertion that these studies demonstrate that the bias occasioned by hindsight is a cognitive limitation affecting both lay and expert judgments in many fields in both laboratory and applied settings is an understanding which compels our attention. It puts me in mind of the comprehensive studies of memory undertaken in the 1980s which showed memory always decays over time⁶⁸. This inevitably affected both the prosecution of cases relying on "repressed memory" of past assaults and also claims in respect of such assaults under criminal compensation legislation.

The limitation of hindsight is now confidently said to be, that individuals routinely overestimate the ex ante predictability of events after they have occurred and, indeed, it has been asserted that individuals are

⁶⁸ Referred to in Susan Crennan, "*Talk Of The Devil: Repressed Memory and the Ritual Abuse Witch Hunt — A Review*" (1997) 71 ALJ 999.

not cognitively able to prevent knowledge through hindsight from impairing their analysis of events.

Applying this to the patent context, it would follow that even the most honest of individuals will "consistently exaggerate what could have been anticipated in foresight and not only tend to view what has occurred as having been inevitable, but also as having appeared relatively inevitable beforehand"⁶⁹.

Whilst I am singularly unqualified and ill-equipped to assess the contestability of such claims, if true, they do provide food for thought in the context of s 7(3)(b) and in the context of a concatenation of circumstances which is not all that unusual — felt want, simple solution, commercial success. The claims also raise interesting implications in respect of confident assertions that too many obvious patents are granted or that the threshold for inventiveness is not high enough. Simple inventions, especially simple combinations, are the most likely casualties of raising standards.

Finally, over the rocks of Scylla (too low a standard for determining an inventive step) and Charybdis (too high a standard) lies a great rain cloud — research and development funds. One would hope that some divergences in the law around the world would be tolerated and that rain would fall over the entire strait between Italy and Sicily.

⁶⁹ Gregory N Mandel, "Patently Non-Obvious: Empirical Demonstration that the Hindsight Bias Renders Patent Decisions Irrational" (2006) 67 Ohio State Law Journal 1391, 1402.

However, inevitably the different paths taken by legislatures in Australia and the United Kingdom, on the related questions of inventive step and obviousness, and proposed in the United States on the question of obviousness, will become more sharply delineated as judicial decisions construe and apply the differently expressed requirements. It remains to be seen whether objectifying criteria by enlarging, through redefinition, the relevant prior art will completely rid obviousness of its "fugitive" quality. It also remains to be seen whether the barriers, which have been raised differently in different places, will all command a consensus that known policy considerations have been balanced fairly.

I raise the imagined potentialities for even more rigorous treatment of evidence affected by hindsight (which could predictably lead to reconsideration of the role of secondary evidence) only to illustrate that the differing legislative criteria for inventive step and obviousness, and the differing tests which they have fostered, could operate in the future with less finality than is currently supposed, for a whole range of reasons.

Schedule 1 – Relevant provisions of the *Patents Act 1990* (Cth)

Section 18(1) provides:

"... an invention is a patentable invention for the purposes of a standard patent if the invention, so far as claimed in any claim:

...

- (b) when compared with the prior art base as it existed before the priority date of that claim:
 - (i) is novel; and
 - (ii) involves an inventive step".

Section 7(2) and (3), under the heading "Inventive step", provide:

"(2) For the purposes of this Act, an invention is taken to involve an inventive step when compared with the prior art base unless the invention would have been obvious to a person skilled in the relevant art in the light of the common general knowledge as it existed in the patent area before the priority date of the relevant claim, whether that knowledge is considered separately or together with the information mentioned in subsection (3).

- (3) The information for the purposes of subsection (2) is:
- (a) any single piece of prior art information; or
 - (b) a combination of any 2 or more pieces of prior art information;

being information that the skilled person mentioned in subsection (2) could, before the priority date of the relevant claim, be reasonably expected to have ascertained, understood, regarded as relevant and, in the case of information mentioned in paragraph (b), combined as mentioned in that paragraph."

Section 138(3)(b) provides that a ground for ordering the revocation of a patent is "that the invention is not a patentable invention".

The dictionary in Schedule 1 of the *Patents Act* 1990 (Cth) was amended by two separate series of amendments on 24 May 2001 and 1 April 2002 to define "prior art base" relevantly to mean:

- "(a) in relation to deciding whether an invention does or does not have an inventive step or an innovative step:
 - (i) information in a document that is publicly available, whether in or out of the patent area; and
 - (ii) information made publicly available through doing an act, whether in or out of the patent area."

"Prior art information" is defined to mean information that is part of the prior art base.

Prior to the amendments referred to above, "prior art base" was defined to mean:

- "(a) in relation to deciding whether an invention does or does not have an inventive step:
 - (i) information in a document, being a document publicly available anywhere in the patent area; and
 - (ii) information made publicly available through doing an act anywhere in the patent area; and
 - (iii) where the invention is the subject of a standard patent or an application for a standard patent — information in a document publicly available outside the patent area."

The "patent area" was defined to mean Australia.

Schedule 2 – Relevant provisions of the *Patents Act 1977* (UK)

"2 ...

- (2) The state of the art in the case of an invention shall be taken to comprise all matter (whether a product, a process, information about either, or anything else) which has at any time before the priority date of that invention been made available to the public (whether in the United Kingdom or elsewhere) by written or oral description, by use or in any other way.

...

- 3 An invention shall be taken to involve an inventive step if it is not obvious to a person skilled in the art, having regard to any matter which forms part of the state of the art by virtue only of section 2(2) above (and disregarding section 2(3) above)."

Schedule 3 – Relevant amendments, *Patent Act of 1952*, 35 USC

The *Patent Reform Act of 2007** will amend § 103, *Patent Act of 1952*, 35 USC as follows:

"§ 103 – Conditions for patentability; nonobvious subject matter

A patent for a claimed invention may not be obtained though the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made."

* *Patent Reform Act of 2007*, HR 1908, 110th Cong (2007), passed on 7 September 2007. The bill has been placed on the calendar of the United States Senate.