

Quantum of obviousness in Australian patent laws

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This article examines obviousness in the context of the Patents Act 1990 (Cth) – the quantum of advance beyond the existing knowledge and information that must be satisfied before a patent is granted and upheld as valid. The article concludes that the current High Court authority has lowered the quantum to almost a per se rule so that the quality of obviousness will almost never be relevant in assessing patentability. Some possible solutions are discussed.

PART 1. INTRODUCTION

One of the key theoretical issues and practical difficulties that remains unresolved in relation to the grant of a standard patent¹ under the *Patents Act 1990* (Cth) is the quantum of advance beyond the existing knowledge and information (the “prior art base” and “prior art information”)² that must be satisfied before a patent is granted and upheld as valid.³ This is, first, an objective quantitative determination of the state of knowledge and information and what the patentee claims to have invented in advance of that knowledge and information, and then, secondly, a subjective “jury question” of whether the advance was of such a quality (not obvious) to warrant the grant of a patent’s statutory “exclusive rights”.⁴ This latter, subjective qualitative determination may arise in the context of “inventive step” (or obviousness) under the *Patents Act 1990* (Cth)⁵ during patent examination,⁶ opposition,⁷ re-examination⁸ and revocation proceedings (including as a cross-claim to infringement).⁹

The threshold quantum of obviousness has immediate consequences for invention and competition insofar as it affects the invention incentives of both initial inventors (the extent to which

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¹ *Patents Act 1990* (Cth), s 61, Sch 1. In contrast to an “innovation patent” (s 62, Sch 1), the main difference being the “innovation patent” need only satisfy an “innovative step” threshold (s 18(1A)(b)(ii)).

² *Patents Act 1990* (Cth), s 7(2), (3), Sch 1.

³ See Intellectual Property and Competition Review Committee (IPCRC), *Review of Intellectual Property Legislation under the Competition Principles Agreement* (IP Australia, 2000) p 154. See also Federal Trade Commission, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy* (Federal Trade Commission, 2003) pp 4-4 - 4-6; Patent Office, *Public Consultation on Level of the Inventive Step Required for Obtaining Patents – The Government’s Response* (UK Intellectual Property Office, 2006) p 3.

⁴ The “exclusive rights” are to “exploit the invention and to authorise another person to exploit the invention” (*Patents Act 1990* (Cth), s 13(1)), and these are “personal property and are capable of assignment and of devolution by law” (s 13(2)) where the term “exploit” includes “(a) where the invention is a product – make, hire, sell or otherwise dispose of the product, offer to make, sell, hire or otherwise dispose of it, use or import it, or keep it for the purpose of doing any of those things” and “(b) where the invention is a method or process – use the method or process or do any act mentioned in paragraph (a) in respect of a product resulting from such use” (*Patents Act 1990* (Cth), Sch 1). For recent general statements of this contention in the context of “inventive step” see, eg, Cornish W and Llewellyn D, *Intellectual Property: Patents, Copyright, Trade Marks and Allied Rights* (Sweet & Maxwell, 2003) pp 191-196; Bentley L and Sherman B, *Intellectual Property Law* (2nd ed, Oxford University Press, 2004) pp 469-470.

⁵ The determination may also arise in the context of “inventive step-like elements”: see Lawson C, “The Evolution of ‘Inventive step’-like Elements in Australian Patent Laws” (2007) 18 AIPJ 130.

⁶ *Patents Act 1990* (Cth), s 45(1)(c). Notably including a “modified examination”: s 48(1)(b).

⁷ *Patents Act 1990* (Cth), s 59(b).

⁸ *Patents Act 1990* (Cth), s 98(1)(b) (pre-grant (s 97(1)) and post-grant (ss 97(2), (3))).

⁹ *Patents Act 1990* (Cth), ss 138(3)(b) (revocation), 121(1) (cross-claim to infringement).

revenues must be shared with independent improvers), and follow-on inventors (the choice between seeking ambitious or niche improvements).¹⁰ Other problems also follow from a too low quantum. These include patent proliferation (variously described as thickets, minefields, royalty stacks, anti-commons effects and flooding), restricting "freedom of operate", requiring unnecessary licensing negotiations, and creating, maintaining or extending unwarranted market power.¹¹ In this context, the advance beyond the existing knowledge and information is fundamental to an efficient and effective patent scheme, being "efficient" in terms of "minimizing compliance and other costs imposed on the community" and "effective" in "addressing an identified problem".¹²

The concept of obviousness has been present in various guises in the case law and statutory formulations since before the time of Federation.¹³ Thus, in addressing the question of whether a purported "manner of manufacture" was new (from s 6 of the *Statute of Monopolies* in 1624), courts determined whether the alleged invention was an advance on existing knowledge (now principally, though not exclusively, called "novelty"), and whether this advance was sufficient to constitute an invention worthy of reward (now principally, though not exclusively, called "inventive step"),¹⁴ albeit that the distinctions between "novelty" (sometimes said to be "lack of novelty", "prior publication", "anticipation", and so on) and "inventive step" (sometimes said to be "ingenuity", "inventive faculty", "subject-matter", "inventive step", and so on) were not always clearly made.¹⁵

The purpose of this article is to examine the quantum of the subjective qualitative determination about obviousness (the "jury question") in the *Patents Act 1952* (Cth) and the *Patents Act 1990* (Cth).¹⁶ Parts 2 and 3 examine this evolution through the interpretation of the *Patents Act 1952* (Cth) and the *Patents Act 1990* (Cth) respectively. As obviousness questions are issues of fact (that is, whether the claim is obvious?),¹⁷ this examination necessarily entails a finely detailed assessment of the factual circumstances in the relevant judgments as a context for the judicial reasoning. As a consequence Parts 2 and 3 address the cases in a detail that expert practitioners might find laborious and they might go directly to Part 4. Part 4 sets out a critique in the form of a discussion that concludes that the current High Court authority has lowered the quantum to almost a per se rule so that the quality of obviousness will almost never be relevant in assessing patentability. The solution to this state of affairs advocated by this article is for the Australian Government to clearly articulate the

¹⁰ See, eg, IPCRC, n 3, p 154. See also Federal Trade Commission, n 3, pp 4-4 - 4-6; Treasury, *Gowers Review of Intellectual Property* (HM Stationary Office, 2006) pp 82-83.

¹¹ See, eg, Federal Trade Commission, n 3, pp 4-4 - 4-6.

¹² Office of Best Practice Regulation, *Best Practice Regulation Handbook* (Productivity Commission, 2007) p 1. See also Productivity Commission, *Regulation and Its Review 2002-03*, Annual Report Series (Productivity Commission, 2003) p 1.

¹³ Although, not as an element of the *Constitution*, s 51(xviii) power "to make laws for the peace, order, and good government of the Commonwealth with respect to ... patents of inventions and designs". See also *Grain Pool WA v Commonwealth* (2002) 202 CLR 479 at 505-507 (Gleeson CJ, Gaudron, McHugh, Gummow, Hayne and Callinan JJ); Quick J and Garran R, *The Annotated Constitution of the Australian Commonwealth* (repr 1st ed 1901, Legal Books, 1976) pp 596-598. For an historical overview of the origins of obviousness see, eg, Beier FK, "The Inventive Step in its Historical Development" (1986) 17 *International Review of Industrial Property and Copyright Law* (IIC) 301; Pila J, "Inherent Patentability in Anglo-Australian Law: A History" (2003) 14 AIPJ 109.

¹⁴ See, eg, *Edison Bell Phonograph Corp Ltd v Smith and Young* (1894) 11 RPC 389 at 398 (Lord Esher MR); *Lancashire Explosive Co Ltd v Roburite Explosives Co Ltd* (1895) 12 RPC 470 at 477 (Herschell LJ), 480 (Smith LJ).

¹⁵ See *RD Werner & Co Inc v Bailey Aluminum Products Pty Ltd* (1989) 13 IPR 513 at 544-546 (Gummow J).

¹⁶ Other recent reviews address some aspects of similar content, although in each case their focus is different and not necessarily linked to the text of the statute: see, eg, Nicol D, "On the Legality of Gene Patents" (2005) 29 MULR 809; Pila, n 13; van Caenegem W, "The Technicality Requirement, Patent Scope and Patentable Subject Matter in Australia" (2002) 13 AIPJ 42; Lawson C, "Patenting Genes and Gene Sequences and Competition: Patenting at the Expense of Competition" (2002) 30 *Fed L Rev* 97; Padbury M, "Inventiveness Apart from Novelty and Inventive Step - The High Court's Decisions on Manner of Manufacture in *Phillips and Mirabella*" (1998) 9 AIPJ 161; Brennan D and Christie A, "Patent Claims for Analogous Use and the Threshold Requirement of Inventiveness" (1997) 25 *Fed L Rev* 237; and so on.

¹⁷ Notably, the statutory interpretation of "obvious" has been resolved and means "very plain": see *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [51]; 235 ALR 202 at 216 (Gummow, Hayne, Callinan, Heydon and Crennan JJ); *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 427 (Gleeson CJ, Gaudron, Gummow and Hayne JJ), 444 (McHugh J), 463 (Kirby J), 477 (Callinan J).

purpose and objective of obviousness in the *Patents Act 1990* (Cth) within a context that favours efficient and effective competition. Once this has been clearly articulated, the policy will provide considerable guidance to an examiner, the Commissioner or a trial judge, focus the evidence towards properly identifying the conception of what has been invented, and then assist in assessing whether there really is such a sufficient quality of advance on the existing knowledge and information to deserve patent protection.

PART 2. PATENTS ACT 1952 (CTH)

Under the *Patents Act 1952* (Cth) the Commissioner could "refuse to accept the application and complete specification"¹⁸ if it did not "comply with the requirements of the Act",¹⁹ with an appeal open through the courts.²⁰ Once an application and specification had been accepted,²¹ opposition (before grant)²² and revocation (after grant)²³ proceedings were available,²⁴ with avenues of appeal open through the courts.²⁵ The *Patents Act 1952* (Cth) expressly separated out the requirements of novelty and obviousness as grounds of opposition²⁶ and revocation,²⁷ but not as part of the report of examination.²⁸ In respect of examination, the necessary obviousness was considered to be part of the existing requirements conveyed by the term "manner of new manufacture" in s 6 of the *Statute of Monopolies*.²⁹ The effect was stated to be to establish a "fundamental difference" between novelty and obviousness and deal with each specifically and exhaustively.³⁰

The limited grounds of opposition included:

that the invention, so far as claimed in any claim, was obvious and did not involve an inventive step, having regard to what was known or used in Australia on or before the priority date of that claim.³¹

The limited grounds of revocation included:

that the invention, so far as claimed in any claim of the complete specification ... was obvious and did not involve an inventive step having regard to what was known or used in Australia on or before the priority date of that claim.³²

Obviousness was determined in *Minnesota Mining & Manufacturing Co v Beirersdorf (Australia) Ltd* (1980) 144 CLR 253 at 293 by Aickin J (with whom Barwick CJ, and Stephen, Mason and

¹⁸ *Patents Act 1952* (Cth), s 52(2). Noting that there was provision to allow amendments to comply with the application and complete specification requirements (s 49).

¹⁹ *Patents Act 1952* (Cth), s 48(2)(a).

²⁰ *Patents Act 1952* (Cth), ss 52(8), 146. This appeal was originally to the High Court.

²¹ *Patents Act 1952* (Cth), s 52(1).

²² *Patents Act 1952* (Cth), s 62.

²³ *Patents Act 1952* (Cth), s 99.

²⁴ *Patents Act 1952* (Cth), ss 59 (opposition), 99 (revocation).

²⁵ *Patents Act 1952* (Cth), ss 60(5), 146 (opposition). A revocation was commenced in the Federal Court (originally in the High Court or State Supreme Court (s 86(2)) and decisions of the State Supreme Court were subject to appeal to the High Court: *Judiciary Act 1903* (Cth), s 35.

²⁶ *Patents Act 1952* (Cth), s 59(1)(g).

²⁷ *Patents Act 1952* (Cth), s 100(1)(e).

²⁸ See *Patents Act 1952* (Cth), s 48(2).

²⁹ *Patents Act 1952* (Cth), s 35(1) (examination). See *Commissioner of Patents v Microcell* (1959) 102 CLR 232 at 245-246 (Dixon CJ, McTeirman, Fullagar, Taylor and Windeyer JJ).

³⁰ See *Advanced Building Systems Pty Ltd v Ramset Fasteners (Aust) Pty Ltd* (1998) 194 CLR 171 at 181-182, 189-190 (Brennan CJ, Gaudron, McHugh and Gummow JJ); *Wellcome Foundation Ltd v VR Laboratories (Aust) Pty Ltd* (1981) 148 CLR 262 at 270 (Aickin J); *Sunbeam Corp v Morphy-Richards (Aust) Pty Ltd* (1961) 180 CLR 98 at 111 (Windeyer J); *Graham Hart (1971) Pty Ltd v SW Hart & Co Pty Ltd* (1978) 141 CLR 305 at 330 (Aickin J).

³¹ *Patents Act 1952* (Cth), s 59(1)(g).

³² *Patents Act 1952* (Cth), s 100(1)(e).

Wilson JJ agreed³³) by considering, in the context of a revocation proceedings, the claimed invention against the common general knowledge: "The question is, is the invention itself obvious, not whether a diligent searcher might find pieces from which there might have been selected the elements which make the patent." The evidence adduced showed what adhesive surgical tape products were available on the market, the known need for an improved tape, the nature of the problem solved by the invention and the "substantial commercial success" of the invention on the market.³⁴ While these were "recognized indicators of inventiveness", they were not in themselves decisive, although they contributed "to the conclusion there was an inventive step": "[t]here was nothing in common general knowledge which pointed to this solution to the known problem which awaited solution".³⁵ This was sufficient to establish that the claimed invention was not obvious. This decision was, in this respect, consistent with a number of earlier High Court decisions.³⁶

The High Court again addressed obviousness indirectly in *Wellcome Foundation Ltd v VR Laboratories (Aust) Pty Ltd* (1981) 148 CLR 262. There, infringement of a patent for "improvements in or relating to injectable therapeutic compositions" was asserted, and a cross-claim for revocation alleged lack of obviousness.³⁷ Discovery was sought of documents dealing with research and development of the invention before the patent application was lodged and documents from proceedings involving the invention in other jurisdictions.³⁸ An important nuance was that lack of obviousness was pleaded without particulars, so that it was assumed in the lower courts that "what was relied upon was only common general knowledge in Australia as at the priority date".³⁹ Before the High Court, however, the parties contested whether "both principle and the authorities established that experiments carried out by an inventor in the course of the work which he undertook leading up to the invention" were relevant to the question of obviousness and so discoverable.⁴⁰ After reviewing various conflicting authorities and finding no relevant Australian authority, Aickin J, with whom Gibbs, Stephen, Mason and Wilson JJ agreed,⁴¹ concluded that discovery was allowable of documents recording research and experimentation as they "relate to a matter in question",⁴² but not for the documents addressing proceedings in other jurisdictions.⁴³ However, in identifying the "matter in question" for the relevant discoverable documents, Aickin J articulated his understanding of "the area of conflict in the authorities"⁴⁴ dealing *only* with evidence of research and experiments and summarising the relevant approach:

What is important is that the patent itself should involve an inventive step, whether or not it was consciously taken by the patentee and whether or not it appeared obvious to the patentee himself. The

³³ *Minnesota Mining & Manufacturing Co v Beiersdorf (Australia) Ltd* (1980) 144 CLR 253 at 259 (Barwick CJ), 260 (Stephen J), 260 (Mason J), 298 (Wilson J).

³⁴ *Minnesota Mining & Manufacturing Co v Beiersdorf (Australia) Ltd* (1980) 144 CLR 253 at 295-298 (Aickin J).

³⁵ *Minnesota Mining & Manufacturing Co v Beiersdorf (Australia) Ltd* (1980) 144 CLR 253 at 298 (Aickin J).

³⁶ See, eg, *John McIlwraith Industries Ltd v Phillips* (1958) 98 CLR 529 at 536 (Dixon CJ), 537 (McTiernan J); *Meyers Taylor Pty Ltd v Vicarr Industries Ltd* (1977) 137 CLR 228 at 237 (Aickin J).

³⁷ *Wellcome Foundation Ltd v VR Laboratories (Aust) Pty Ltd* (1981) 148 CLR 262 at 268-269 (Aickin J).

³⁸ *Wellcome Foundation Ltd v VR Laboratories (Aust) Pty Ltd* (1981) 148 CLR 262 at 269 (Aickin J).

³⁹ *Wellcome Foundation Ltd v VR Laboratories (Aust) Pty Ltd* (1981) 148 CLR 262 at 270 (Aickin J).

⁴⁰ *Wellcome Foundation Ltd v VR Laboratories (Aust) Pty Ltd* (1981) 148 CLR 262 at 270 (Aickin J).

⁴¹ *Wellcome Foundation Ltd v VR Laboratories (Aust) Pty Ltd* (1981) 148 CLR 262 at 268 (Gibbs J), 268 (Stephen J), 268 (Mason J), 288 (Wilson J).

⁴² *Wellcome Foundation Ltd v VR Laboratories (Aust) Pty Ltd* (1981) 148 CLR 262 at 284, 287-288, citing *Temmler v Knoll Laboratories (Australia) Pty Ltd* (1969) 43 ALJR 363 at 363-364 (Windeyer J) in support of the proposition that discovery should be available for documents that relate to a matter in question.

⁴³ *Wellcome Foundation Ltd v VR Laboratories (Aust) Pty Ltd* (1981) 148 CLR 262 at 288.

⁴⁴ *Wellcome Foundation Ltd v VR Laboratories (Aust) Pty Ltd* (1981) 148 CLR 262 at 286.

test is whether the hypothetical addressee faced with the same problem would have taken as a matter of routine whatever steps might have led from the prior art to the invention, whether they be the steps of the inventor or not.⁴⁵

Aickin J's passage was later considered by the High Court in *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 432. In the earlier proceedings the Federal Court (trial judge) and Full Federal Court had found, in a cross-claim for revocation, that a claim to a coated therapeutic composition was obvious, and rejected an application to restrain an anticipated infringement.⁴⁶ The High Court majority overturned the lower court decisions, finding that they had misunderstood the relevant test of obviousness.⁴⁷ In this matter the patent claimed a combination of known elements (integers) of an oral pharmaceutical core (omeprazole) with two coating layers that all together allegedly produced a new product (a pill).⁴⁸ The patented combination was characterised in the complete specification as a solution to a problem; the "essential requirement of invention" was the interaction of the integers, being a selection of the integers out of many possibilities.⁴⁹ Importantly, the evidence showed that a formulating team had considered a number of possible solutions to the problems they faced in getting the already patented oral pharmaceutical (omeprazole) through the stomach and arrived at their marketable pharmaceutical (using two coating layers) after many years of trials with no way of predicting which of the possible solutions might be successful,⁵⁰ albeit as an exercise in trying out various possibilities until a solution emerged.⁵¹

The High Court joint judgment concluded that the error for the trial judge had been to take Aickin J's passage in *Wellcome Foundation* and consider as obvious "routine" experiments that might not have led directly to the invention with the expectation of success without actually assessing the expert evidence to the contrary.⁵² The error of the Full Federal Court was to rely on the proposition that "[i]t is enough that it be apparent to [a non-inventive skilled worker] that it would be *worthwhile to try each of the integers* that was ultimately successfully used",⁵³ when what was relevant was the combination of integers and whether the particular invention was obvious being "worthwhile to try" with the expectation of success.⁵⁴ In articulating the proper approach to determining obviousness, or "whether [the inventor] would have been led directly as a matter of course to pursue one avenue in the expectation that it might well produce the claimed compound",⁵⁵ the joint judgment favoured the approach of Aickin J in *Wellcome Foundation* according to the re-formulation of the so-called Cripps question⁵⁶ by Graham J in *Olin Mathieson Chemical Corporation v Biorex Laboratories Ltd* [1970] RPC 157 at 187-188:

⁴⁵ *Wellcome Foundation Ltd v VR Laboratories (Aust) Pty Ltd* (1981) 148 CLR 262 at 286 per Aicken J.

⁴⁶ See *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 420-421.

⁴⁷ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 443-444 (Gleeson CJ, Gaudron, Gummow and Hayne JJ), 482 (Callinan J).

⁴⁸ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 419 (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

⁴⁹ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 419 and 429. See also *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2000) 51 IPR 375 at 378-381 (Wilcox, Merkel and Emmett JJ).

⁵⁰ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 424-425 (Gleeson CJ, Gaudron, Gummow and Hayne JJ). See also *Aktiebolaget Hässle v Alphapharm Pty Ltd* (1999) 44 IPR 593 at 608-630 (Lehane J).

⁵¹ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 443 (Gleeson CJ, Gaudron, Gummow and Hayne JJ). See also *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2000) 51 IPR 375 at 406 (Wilcox, Merkel and Emmett JJ).

⁵² *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 434 (Gleeson CJ, Gaudron, Gummow and Hayne JJ). A further error was that the trial judge had also included irrelevant prior publications in the common general knowledge contrary to the requirements of the decision in *Minnesota Mining & Manufacturing Co v Beiersdorf (Australia) Ltd* (1980) 144 CLR 253 at 295 (Aickin J; with whom Barwick CJ, Stephen J, Mason J and Wilson JJ agreed at 434-436).

⁵³ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 437 (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

⁵⁴ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 437-443 (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

⁵⁵ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 434 (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

⁵⁶ See *Shurpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 173 (Hanworth MR).

Would the notional research group at the relevant date, in all the circumstances, which include a knowledge of all the relevant prior art and of the facts of the nature and success of chlorpromazine, directly be led as a matter of course to try the -CF₃ substitution in the "2" position in place of the -Cl atom in chlorpromazine or in any other body which, apart from the -CF₃ substitution, has the other characteristics of the formula of claim 1, in the expectation that it might well produce a useful alternative to or better drug than chlorpromazine or a body useful for any other purpose?⁵⁷

Despite setting out statements of apparent principle, the High Court joint judgment was also careful to re-state Diplock LJ's "frequently cited" caution from *Johns-Manville Corporation's Patent* [1967] RPC 479 at 493-494 that a definitive statement of obviousness was probably not possible.⁵⁸ This caution was expressly extended to Aickin J's passage in *Wellcome Foundation* recognising that invention does not necessarily require a "long-felt want" (solutions to problems), long experimentation and research, but might result from luck and chance and serendipity.⁵⁹ As a consequence, the use of the term "obvious"⁶⁰ in the context of the *Patents Act 1952* (Cth) posed "acute difficulties" for the joint judgment,⁶¹ and that these needed to be considered in the context of the particular circumstances of this matter.

The consequence of the joint judgment's reasoning was to avoid the analysis, reflected in the United Kingdom cases,⁶² of "worth a try" or "obvious to try" and instead focus on "whether the claimed inventions was obvious" because "the adoption of a criterion of validity expressed in terms of 'worth a try' or 'obvious to try' and the like begs the question presented by the statute".⁶³ This approach was said to follow the United States' conception of obviousness, the joint judgment citing with approval⁶⁴ the proposition from Rich J in *Re O'Farrell* 853 F 2d 894 at 903 (Fed Cir 1988) that "[t]here is always at least a possibility of unexpected results, that would then provide an objective basis for showing that the invention, although apparently obvious, was in law non-obvious". In other words, the joint judgment rejected a generalised conception of obviousness as "an exercise in trying out various known possibilities until the correct solution emerged",⁶⁵ instead requiring a narrower threshold that the inventor "would have been led directly as a matter of course to pursue one avenue in the expectation that it might well produce the claimed compound".⁶⁶

Of the other judgments, McHugh J dissented, having considered that the decisions of the trial judge and Full Federal Court "were findings that were open to them on the evidence, they involved the application of a flexible, indeterminate expression and they were not flawed by any legal error".⁶⁷ He suggested that if he were the trial judge he would have favoured the approach of the joint judgment,

⁵⁷ Also cited by Gleeson CJ, Gaudron, Gummow and Hayne JJ in *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 433, and whose emphasis is added.

⁵⁸ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 428 (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

⁵⁹ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 428 (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

⁶⁰ Noting that the *Patents Act 1952* (Cth), s 100(e) juxtaposing of the phrases "was obvious" with "did not involve and inventive step" was not a qualification of the term "obvious". See *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 423 (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

⁶¹ See *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 428.

⁶² This essentially requires an application of the test espoused by the Court of Appeal in *Windsurfing International Inc v Tabur Marine (Great Britain) Ltd* [1985] RPC 59 at 73-74 (Oliver LJ) that requires in part, an identification of any differences between the "known or used" matter and the alleged invention followed by a decision, without any knowledge of the alleged invention, whether the differences constituted steps that would have been obvious to the skilled addressee, including whether the invention was "obvious to try". See also *Johns-Manville Corporation's Patent* [1967] RPC 479 at 493 (Diplock LJ). Although this articulation of the test may now overstate the UK position, see, eg, *Saint-Gobain v Fusion Provida and Electrosteel* [2005] EWCv Civ 177 at [23]-[38] (Jacobs LJ).

⁶³ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 441 per Gleeson CJ, Gaudron, Gummow and Hayne JJ.

⁶⁴ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 441-442.

⁶⁵ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 443 per Gleeson CJ, Gaudron, Gummow and Hayne JJ; see also *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2000) 51 IPR 375 at 406 (Wilcox, Merkel and Emmett JJ).

⁶⁶ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 434 per Gleeson CJ, Gaudron, Gummow and Hayne JJ.

⁶⁷ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 444 per McHugh J.

although "as a matter of law" that approach was not binding.⁶⁸ However, he also clearly stated that obviousness was a question of fact "whether the inventive step claimed was 'very plain'",⁶⁹ and that the various judicial statements of apparent principle were merely reasons rationalising a particular conclusion about facts, and so not binding.⁷⁰ Kirby J, also dissenting, was skeptical of verbal formulations of principle and the joint judgment's approach favouring "a triumph of method", and cautioning about setting the quantum too low.⁷¹

The effect of the High Court decision in *Aktiebolaget Hässle* was to reject the broad "worth a try" or "obvious to try" conceptions, and adopt a narrower requirement that evidence show that the inventor would have been directly led, with an expectation of success, to the whole claimed invention.⁷²

PART 3. PATENTS ACT 1990 (Cth)

Under the *Patents Act 1990* (Cth) the Commissioner can refuse to accept "a patent request and complete specification" which discloses the alleged invention that does not involve an "inventive step",⁷³ with an appeal open through the courts.⁷⁴ Following acceptance, opposition and revocation proceedings are available,⁷⁵ including the grounds "that the invention is not a patentable invention" and this will include that the invention does not involve an "inventive step",⁷⁶ again with an appeal open through the courts.⁷⁷ The substance of the "inventive step" requirement is the same on examination, opposition and revocation,⁷⁸ except that on examination the "prior art base" does not include information made publicly available only through the doing of an act.⁷⁹ The standardisation of the patent requirements across examination, opposition and revocation was a significant change from the *Patents Act 1952* (Cth), even though the content of these requirements is not necessarily the same at each stage. For example, on examination the Commissioner constructs a problem/solution approach that might not be accepted by a court.⁸⁰

The formal requirements for "inventive step" under the *Patents Act 1990* (Cth) are:

⁶⁸ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 444-445 per McHugh J.

⁶⁹ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 444 per McHugh J.

⁷⁰ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 445-446 per McHugh J.

⁷¹ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 459-462, 466-468.

⁷² Contrary to other jurisdictions, Australian law requires consideration of the obviousness of the whole invention rather than each of the elements (inventive steps) along the path to the claimed invention, perhaps making an assertion that an invention is obvious yet harder to establish: see *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 441 (Gleeson CJ, Gaudron, Gummow and Hayne JJ). See also *Firebelt Pty Ltd v Brambles Australia Ltd* (2002) 54 IPR 449 at 463-464 (Gleeson CJ, McHugh, Gummow, Hayne and Callinan JJ).

⁷³ *Patents Act 1990* (Cth), s 49(1).

⁷⁴ *Patents Act 1990* (Cth), s 51; with subsequent appeals available to the Full Federal Court and High Court (s 158).

⁷⁵ *Patents Act 1990* (Cth), ss 59 (opposition), 138 (revocation).

⁷⁶ *Patents Act 1990* (Cth), ss 59(b) (opposition), 138(3)(b) (revocation).

⁷⁷ *Patents Act 1990* (Cth), s 154(1); with subsequent appeals available to the Full Federal Court and High Court (s 158).

⁷⁸ See *Patents Act 1990* (Cth), ss 45(1)(c)(ii) (examination), 59(b) (opposition), 138(3)(b) (revocation).

⁷⁹ *Patents Act 1990* (Cth), ss 45(1A). Further, the potential for the examination (and re-examination) to challenge the content of the prior art base is limited by the ability to receive relevant evidence. See *Emperor Sports Pty Ltd v Commissioner of Patents* (2005) 66 IPR 46 at 64-66 (Lindgren J).

⁸⁰ See IP Australia, *Patent Manual of Practice and Procedures* (IP Australia, 2007) para [2.5.1.6].

18 (1) ... an invention^[81] is a patentable invention^[82] for the purposes of a standard patent^[83] if the invention, so far as claimed in any claim:^[84]

...

(b) when compared with the prior art base^[85] as it existed before the priority date of that claim:^[86]

...

(ii) involves an inventive step.

For the purposes of an "inventive step", the *Patents Act 1990* (Cth) further provides:

7(2) ... an invention is to be 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^[87] before the priority date of the relevant claim, whether that knowledge is considered separately or together with the information mentioned in subsection (3).^[88]

(3) The information for the purposes of subsection (2) is:

- (a) any single piece of prior art information;^[89] 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.⁹⁰

The term "prior art base" is, "in relation to deciding whether an invention does or does not involve an inventive step",⁹¹ defined to mean:

- (i) information in a document^[92] that is publicly available, whether in or out of the patent area; and

⁸¹ "Invention" means "any manner of new manufacture the subject of letters patent and grant of privilege within s 6 of the *Statute of Monopolies*, and includes an alleged invention": *Patents Act 1990* (Cth), Sch 1.

⁸² "Patentable invention" means "an invention of the kind mentioned in s 18": *Patents Act 1990* (Cth), Sch 1.

⁸³ "[S]tandard patent" means "letters patent for an invention granted under s 61": *Patents Act 1990* (Cth), Sch 1.

⁸⁴ "Claim" means "(a) when used as a noun in relation to a patent – a claim (including a dependent claim) of the specification relating to the complete application on which the patent was granted; and (b) when used as a noun otherwise than in relation to a patent – a claim (including a dependent claim) of a complete specification; and (c) when used as a verb – to claim in a claim (including a dependent claim) of a complete specification": *Patents Act 1990* (Cth), Sch 1.

⁸⁵ "Prior art base" means "(a) in relation to deciding whether an invention does or does not involve 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": *Patents Act 1990* (Cth), Sch 1.

⁸⁶ *Patents Act 1990* (Cth), s 43(2).

⁸⁷ "Patent area" means "Australia", "the Australian continental shelf", "the waters above the Australian continental shelf" and "the airspace above Australia and the Australian continental shelf": *Patents Act 1990* (Cth), Sch 1.

⁸⁸ *Patents Amendment Act 2001* (Cth), Sch 1 (item 3) replaced the phrase "either of the kinds of information mentioned in subsection (3), each of which must be considered separately" with the phrase "the information mentioned in subsection (3)".

⁸⁹ "Prior art information" for the purposes of inventive step means "information that is part of the prior art base in relation to deciding whether an invention does or does not involve an inventive step": *Patents Act 1990* (Cth), Sch 1.

⁹⁰ Notably this text replaced: "(3) For the purposes of subsection (2), the kinds of information are: (a) prior art information made publicly available in a single document or through doing a single act; and (b) prior art information made publicly available in 2 or more related documents, or through doing 2 or more related acts, if the relationship between the documents or acts is such that a person skilled in the relevant art in the patent area would treat them as a single source of that 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 and regarded as relevant to work in the relevant art in the patent area": see *Patents Amendment Act 2001* (Cth), s 3 and Sch 1 (item 4).

⁹¹ *Patents Act 1990* (Cth), Sch 1.

⁹² Defined to include "(a) any paper or other material on which there is writing; (b) any paper or other material on which there are marks, figures, symbols or perforations having a meaning for persons qualified to interpret them; and (c) any article or material from which sounds, images or writings are capable of being reproduced with or without the aid of any other article or device": *Acts Interpretation Act 1901* (Cth), s 25.

(ii) information made publicly available through doing an act, whether in or out of the patent area.⁹³

The immediate effect of the *Patents Act 1990* (Cth) was to “relax” some of the rules forbidding the use of prior disclosures and this has continued with the *Patents Amendment Act 2001* (Cth) amendment.⁹⁴ However, the relationship between common general knowledge and this additional information remains distinct in determining obviousness.⁹⁵ Importantly, whether the necessary quantum of obviousness under the *Patents Act 1990* (Cth) had also changed was uncertain.

In *Firebelt Pty Ltd v Brambles Australia Ltd* (2002) 54 IPR 449 the High Court considered a combination claim for a petty patent⁹⁶ for a side loading garbage collecting truck that separated garbage from recyclables. The petty patent scheme applied the same “inventive step” standard according to a geographically restricted “prior art base” that only included information and publications within Australia (at 453). The High Court assessed the complaint that both the trial judge and Full Federal Court had considered obviousness by reference to the integers of the alleged invention rather than the combination as a whole (at 463-464). The High Court rejected this complaint, albeit accepting that it would have been relevant if that had been the case, and approved the trial judge’s and Full Federal Court’s decisions as correctly stating the appropriate principles (at 464). The High Court appeared to have adopted for the *Patents Act 1990* (Cth) the decision in *Minnesota Mining* without the flourish of *Wellcome Foundation*: “[t]he question is, is the invention itself obvious”. This decision, however, pre-dated the High Court’s further consideration of the *Patents Act 1952* (Cth) obviousness requirements in *Aktiebolaget Hässle*.⁹⁷

More recently, the High Court directly addressed inventive step under the *Patents Act 1990* (Cth) in *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070; 235 ALR 202. There, the invention concerned a keyed door lock and the adding of integers to a combination of integers that allowed the inside deadlock to be opened from the outside (adding integer (vi) and (vii)-(x) to integers (i)-(v)).⁹⁸ The claim in dispute before the trial judge and Full Federal Court was claim 1 (integers (i)-(vi)), while the claim in dispute before the High Court was claim 13 (integers (i)-(x)).⁹⁹ Claim 1 was a broad claim that was representative of all the subsequent dependent claims (including claim 13).¹⁰⁰ The main focus of the High Court’s decision was on the content of the

⁹³ *Patents Act 1990* (Cth), Sch 1.

⁹⁴ See *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [45]; 235 ALR 202 at 216 (Gummow, Hayne, Callinan, Heydon and Crennan JJ).

⁹⁵ See *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [51]; 235 ALR 202 at 239 (Gummow, Hayne, Callinan, Heydon and Crennan JJ); *Firebelt Pty Ltd v Brambles Australia Ltd* (2002) 54 IPR 449 at 459 (Gleeson CJ, McHugh, Gummow, Hayne and Callinan JJ). See also *Tidy Tea Ltd v Unilever Australia Ltd* (1995) 32 IPR 405 at 414.

⁹⁶ The petty patent scheme was subsequently repealed and an innovation patent scheme introduced in its place that applied an “innovative step” standard: see *Patents Amendment (Innovation Patents) Act 2000* (Cth). See also IP Australia, *Review of the Innovation Patent*, Issues Paper (IP Australia, 2005); IP Australia, n 80, para [2.31.4.5.4].

⁹⁷ The Federal Court had, however, adopted the obviousness test according to the High Court joint judgment in *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411: see, eg, *Pfizer Overseas Pharmaceuticals v Eli Lilly and Co* (2005) 68 IPR 1 at 60-61, 83; *JMYB Enterprises Pty Ltd v Camoflag Pty Ltd* (2006) 70 IPR 77 at 81; *Commissioner of Patents v Emperor Sports Pty Ltd* (2006) 67 IPR 488 at 490; *Fresenius Medical Care Australia Pty Ltd v Gambro Pty Ltd* (2005) 67 IPR 230 at 253-257. In contrast, in *Nutrasweet Australia Pty Ltd v Ajinomoto Co Inc* (2005) 67 IPR 381 at 392-394 (Finkelstein J) where the test appears to have been characterised as “if the skilled person would ‘reasonably expect’ that the steps suggested by the prior art would produce the claimed invention, then obviousness will be established” and the patent revoked as invalid because “the evidence does establish that it would reasonably have been expected that a blend comprising DMB-APM and aspartame or aceK, or DMB-APM, aspartame and aceK would give a sweetness quality closer to that of sucrose than any one of those compounds individually” (at 393-394).

⁹⁸ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [21]-[25]; 235 ALR 202 at 208-210.

⁹⁹ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [26]-[28]; 235 ALR 202 at 210.

¹⁰⁰ See *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [21]; 235 ALR 202 at 208-209.

relevant prior art information to be added to the prior art base.¹⁰¹ The parties accepted that integers (i)-(v) of claim 13 were a part of the common general knowledge and that integer (vi) was not.¹⁰² The ultimate question went to whether integer (vi) (and integers (vii)-(x)), that was already present in some publicly available locks, was relevant information for the purposes of the *Patents Act 1990* (Cth) in addition to common general knowledge.¹⁰³ As a consequence of the matters in dispute on appeal, however, the High Court was required to make an assessment of the obviousness of claim 13.¹⁰⁴

In considering the historical development of the inventive step requirement the High Court carefully stated that “[w]e do not intend ... and are not to be taken as suggesting, any re-interpretation of what was decided in those [earlier] cases”.¹⁰⁵ Then in rejecting the Full Federal Court’s approach the High Court stated the proper test as:

The Full Court implied that it was obvious to conceive the reverse of a statement in the specification which noted the absence of a feature in a prior art product. But the question of whether the concept of adding integer (vi) to integers (i)-(v) (claim 1) or to the combination of integers (i)-(v), and (vii)-(x) (claim 13) is inventive will turn on what a person skilled in the relevant art, possessed with that person’s knowledge, *would have regarded*, at the time, as technically possible in terms of mechanics, and also as practical. That is the sense in which an idea can involve an inventive insight about a known product. A court cannot substitute its own deduction or proposition for that objective touchstone, except in the rarest of circumstances, such as where an expressly admitted matter of common general knowledge is the precise matter in respect of which a monopoly is claimed. Even if an idea of combining integers, which individually may be considered mere design choices, is simple, its simplicity does not necessarily make it obvious.¹⁰⁶

This approach was reinforced by the High Court’s statements in outlining the relevant general principles concerning inventive step that:

The majority in *Alphapharm* also confirmed that the question of whether an invention is obvious is a question of fact, that is, it is what was once a “jury question”. Broadly speaking, the question is not a question of what is obvious to a court. As well as being a question of fact, the question of determining whether a patent involves an inventive step is also “one of degree and often it is by no means easy”, because ingenuity is relative, depending as it does on relevant states of common general knowledge.

... A “scintilla of invention” remains sufficient in Australian law to support the validity of a patent.¹⁰⁷

The High Court then re-stated the appropriate test as that of Aickin J in *Wellcome Foundation* “the question of obviousness involves asking the question whether the invention would have been obvious to a non-inventive worker in the field” with the construction of common general knowledge and other knowledge and information imposed by the *Patents Act 1990* (Cth), s 7(2), (3).¹⁰⁸ Applying this test to the particular facts, the High Court concluded that the evidence supported the primary judge’s finding that the invention (including claim 13) was not obvious on the basis of common general knowledge alone:

When skilled, non-inventive persons, and in this case also a skilled inventive person (Mr Garland), looking for improvements, failed to arrive at the invention, it is impossible to suggest that it would have

¹⁰¹ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [130]-[167]; 235 ALR 202 at 235-242.

¹⁰² *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [154]; 235 ALR 202 at 240.

¹⁰³ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [35], [165]; 235 ALR 202 at 212, 241.

¹⁰⁴ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [35]; 235 ALR 202 at 212.

¹⁰⁵ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [38]; 235 ALR 202 at 213 per Gummow, Hayne, Callinan, Heydon and Crennan JJ.

¹⁰⁶ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [111]; 235 ALR 202 at 231 per Gummow, Hayne, Callinan, Heydon and Crennan JJ (emphasis added; footnotes omitted).

¹⁰⁷ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [51]-[52]; 235 ALR 202 at 216-217 per Gummow, Hayne, Callinan, Heydon and Crennan JJ (footnotes omitted).

¹⁰⁸ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [54]; 235 ALR 202 at 217-218.

been obvious to the skilled and not necessarily inventive person.¹⁰⁹

And when taking into consideration the other knowledge and information imposed by the *Patents Act 1990* (Cth), s 7(2), (3):

The facts here lead to the conclusion that the information conveyed by acts of sales of the storeroom locks, assessed by reference to the statutory test in s 7(3), does not qualify as s 7(3) information for inclusion in the prior art base for claim 13.¹¹⁰

And as a consequence, the invention was still not obvious. However, the joint judgment then stated:

It is not, strictly speaking, necessary to go further. But let it be assumed that the information qualified for inclusion in the prior art base for claim 13, pursuant to s 7(3). On that assumption, the question which s 7(2) requires to be asked is: "If that information had been considered by a person skilled in the relevant art together with common general knowledge *would* the invention in claim 13 have been obvious?" The evidence permits only one answer to that question: No.¹¹¹

The High Court's approach identified the appropriate test as that of Aickin J in *Wellcome Foundation*, apparently accepting, albeit tacitly, that "the invention *would* have been obvious" according to the construction in *Aktiebolaget Häsle*.

PART 4. DISCUSSION

A part of the problem in examining a particular patent standard in Australia is that there is no clear statement from the Australian Government about what it believes the patent scheme is intended to achieve.¹¹² This probably reflects, at least in part, the requirement that, irrespective of the policy merits, Australia must adopt certain minimum patent standards required by the *United States-Australia Free Trade Agreement*¹¹³ and the World Trade Organization's *Agreement on Trade Related Aspects of Intellectual Property Rights* (TRIPS).¹¹⁴ The absence of a detailed policy justification, however, is perhaps a surprising proposition in Australia, as with the advent of a *National Competition Policy*, and in particular the *Competition Principles Agreement*,¹¹⁵ the *Patents Act 1990* (Cth) was required to

¹⁰⁹ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [119]; 235 ALR 202 at 234 per Gummow, Hayne, Callinan, Heydon and Crennan JJ. Noting also (at 241) that: "Mr Garland understood the workings of the storeroom locks and was well aware of the potential seriousness of the 'locked in' problem with the Lockwood 001. He was briefed, as an inventive person, to design a rim mounted dead latch to compete with the Lockwood 001. If he had thought of the solution to the 'locked in' problem before the priority date he would have passed it on to Doric. He conceded that solutions he now sees in the field have been seen as he was 'looking back on [the particular problem]'."

¹¹⁰ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [165]; 235 ALR 202 at 241 per Gummow, Hayne, Callinan, Heydon and Crennan JJ.

¹¹¹ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [166]; 235 ALR 202 at 242 per Gummow, Hayne, Callinan, Heydon and Crennan JJ (emphasis added).

¹¹² For a detailed assessment of this contention and the existing policy statements from the Australian Government see, eg, Lawson C and Pickering C, "'TRIPS-Plus' Patent Privileges – An Intellectual Property 'Cargo Cult' in Australia" (2004) 22 *Prometheus* 355.

¹¹³ [2005] ATS 1. Entered into force on 1 January 2005 and its application to the *Patents Act 1990* (Cth) were effected through the *US Free Trade Agreement Implementation Act 2004* (Cth), s 3 and Sch 8.

¹¹⁴ *Marrakech Agreement Establishing the World Trade Organisation* [1995] ATS 8, Annex 1C (*Agreement on Trade Related Aspects of Intellectual Property Rights* [1995] ATS 38). Entered into force on 1 January 1995 and its application to the *Patents Act 1990* (Cth) were effected through the *Patents (World Trade Organization Amendments) Act 1994* (Cth), ss 4–7, 12 (with effect from 1 July 1995) and ss 8–11, 13–17 (with effect from 10 January 1995). Although the substance of these internationally agreed minimum patent standards is disputed, there is a slowly evolving international consensus. See World Intellectual Property Organization, *Standing Committee on the Law of Patents*, Tenth Session (2003) SCP/10/4, Art 12(3); World Intellectual Property Organization, *Standing Committee on the Law of Patents*, Eight Session (2002) SCP/8/9, [303]; World Intellectual Property Organization, *Standing Committee on the Law of Patents*, Ninth Session (2003) SCP/9/8, [102]–[109]; World Intellectual Property Organization, *Standing Committee on the Law of Patents*, Eight Session (2002) SCP/8/9, [324]–[337].

¹¹⁵ The *National Competition Policy* comprises a series of agreements (including the *Competition Principles Agreement*) between the Commonwealth, States and Territories, legislative measures to limit anti-competitive conduct and ensure access to essential facilities (such as the *Trade Practices Act 1974* (Cth)) and government bodies to oversee the application of the *National Competition Policy* (such the Australian Competition and Consumer Commission and the National Competition

comply with the "guiding principle"¹¹⁶ that legislation should not restrict competition unless it could be "demonstrated"¹¹⁷ that "the benefits of the restriction to the community as a whole outweigh the costs" and "the objectives of the legislation can only be achieved by restricting competition".¹¹⁸ According to this standard, the objectives (and benefits) of the *Patents Act 1990* (Cth) and the threshold standards that distinguish inventions deserving statutory privileges might have been expected to have been clearly articulated and "demonstrated" to be beneficial.¹¹⁹ At best the Australian Government's stated policy objectives for patents are couched in generalised terms such as "strengthen our intellectual property (IP) management processes and increase access to global research and technologies",¹²⁰ and to variously stimulate invention (and innovation), increase the public availability of information about new technology, encourage entrepreneurs, promote investment and address free-riding on investment in intellectual effort.¹²¹ While these are undoubtedly desirable, this does not provide a basis for detailed policy choices about the kinds of settings that a modern advanced economy industry policy might expect.¹²² Further, the competition analysis of inventive step/obviousness according to the requirements of the *Competition Principles Agreement*¹²³ was cursory.¹²⁴ The major focus of that competition analysis was on the documents, acts and knowledge that might be considered to form the prior art base, and how these might be combined by a person skilled in the relevant art and adding to the common general knowledge.¹²⁵ The outcome was to recommend that the prior art base be expanded to include "all information, including acts and common general knowledge, anywhere in the world which a person skilled in the art could have reasonably expected to find, understand and regard as relevant" and mosaic-ing the prior art where it "would be obvious to the person skilled in the art".¹²⁶ This recommendation was accepted by the Australian Government and the *Patent Act 1990* (Cth) was accordingly amended by the *Patents Amendment Act*

Council). The *Competition Principles Agreement* was directed, in part, to the removal of anti-competitive aspects of existing and proposed regulation, including the *Patents Act 1990* (Cth). See IPCRC, n 3, pp 134-178; Independent Committee of Inquiry into Competition Policy in Australia, *National Competition Policy* (AGPS, 1993) p 195.

¹¹⁶ Either through a review of the anti-competitive effects of existing legislation (*Competition Principles Agreement*, cl 5(3)) or that proposals for new legislation be considered for their likely anti-competitive effects (*Competition Principles Agreement*, cl 5(5)). See IPCRC, n 3, p 20.

¹¹⁷ The construction of the *Competition Principles Agreement*, cl 5(1) relies on the term "demonstrated" in setting out the standard to be achieved in applying the "guiding principle", while the *Competition Principles Agreement*, cl 5(5) expressly requires "evidence" that proposed legislation restricting competition is consistent with the "guiding principle". While this might be construed as a lower standard for reviewing existing legislation, the preferable construction is evidence demonstrating that the guiding principle has been satisfied: Lawson C, "Patent Privileges and the National Competition Policy - Patent Scope and Allocation?" (2005) 33 ABLR 7 at 11. See also Productivity Commission, n 12, p 7; Office of Best Practice Regulation, n 12, pp 2-6.

¹¹⁸ *Competition Principles Agreement*, cl 5(1).

¹¹⁹ See Productivity Commission, *Regulation and Its Review 2000-01*, Annual Report Series (2001) pp 30-31; Productivity Commission, *Regulation and Its Review 2001-02*, Annual Report Series (2002) pp 28-29. See also Lawson, n 117.

¹²⁰ Commonwealth, *Backing Australia's Ability: An Innovation Action Plan for the Future* (Big Island Graphics and Corporate Communications ISR, 2001) p 18.

¹²¹ IPCRC, n 3, pp 136-138.

¹²² The present controversies relate to the best way that patents can promote invention, it being an almost uncontroversial objective of patents to promote invention. For an overview of the current competing concerns see, eg, Committee on Intellectual Property Rights in the Knowledge-Based Economy, *A Patent System for the 21st Century* (National Academies Press, 2004) pp 39-80 (and the references therein).

¹²³ See IPCRC, n 3, pp 134-178.

¹²⁴ See IPCRC, n 3, pp 154-156.

¹²⁵ IPCRC, n 3, p 155.

¹²⁶ IPCRC, n 3, p 156.

2001 (Cth).¹²⁷ Unfortunately, there was no competition assessment of the quantum of the obviousness, or any assessment of how the threshold might be considered or applied.¹²⁸

As the analysis in this article shows, the High Court in considering the various incarnations of obviousness in the *Patent Act 1952* (Cth) and the *Patent Act 1990* (Cth) has very carefully avoided coining a definitive principle.¹²⁹ Further, the various articulations of obviousness (said to be "the decisional verbiage"¹³⁰) have not identified a definitive analytical approach for assessing the standard(s).¹³¹ The concern must now be that the High Court's treatment of the obviousness threshold in *Aktiebolaget Hässle*,¹³² and its apparent adoption under the *Patents Act 1990* (Cth) by *Lockwood*,¹³³ has lowered the threshold so that obviousness will almost never be relevant in assessing patentability.¹³⁴ Recall that the joint judgment in *Aktiebolaget Hässle* cited favourably the propositions of Graham J in *Olin Mathieson* that the inventor should be "directly led as a matter of course",¹³⁵ and Rich J in *O'Farrell* that almost any "possibility of unexpected results" was all that was necessary for the invention not to be obvious.¹³⁶ In other words, the joint judgment in *Aktiebolaget Hässle* rejected a generalised conception of obviousness as "an exercise in trying out various known possibilities until the correct solution emerged",¹³⁷ instead requiring a much narrower threshold that the inventor "would have been led directly as a matter of course to pursue one avenue in the expectation that it might well produce the claimed compound".¹³⁸ In the context of the circumstances this would appear to be a very, very low threshold indeed.

Recall that the invention claimed a combination of known elements (integers) of an oral pharmaceutical core (omeprazole) with two coating layers that all together allegedly produced a new product (a pill).¹³⁹ The trial judge had stated:

I accept also that the process which would then have followed would have been a complex, detailed and laborious one, involving a good deal of trial and error, dead ends and the retracing of steps; and it is easy to fall into the twin traps of hindsight and over simplification. But there is no reason to doubt that

¹²⁷ See *Patents Amendment Act 2001* (Cth), Sch 1 (item 4). See also *Pfizer Overseas Pharmaceuticals v Eli Lilly and Co* (2005) 68 IPR 1 at 59-66 (French and Lindgren JJ), 83 (Crennan J); *Commissioner of Patents v Emperor Sports Pty Ltd* (2005) 67 IPR 488 at 494-496 (Heerey, Kiefel and Bennett JJ).

¹²⁸ Notably, submissions addressing this issue were made to the Intellectual Property and Competition Review Committee but the issue was not adjudicated in the final report. See IPCRC, n 3, p 155. This is in direct contrast to the recent review of the related standard in the United Kingdom: Patent Office, n 3, pp 1-3.

¹²⁹ See, for the most recent examples, *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [50]-[56]; 235 ALR 202 at 216-218 (Gummow, Hayne, Callinan, Heydon and Crennan JJ); *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 428 (Gleeson CJ, Gaudron, Gummow and Hayne JJ), 445-446 (McHugh J), 463-464 (Kirby J); *Firebelt Pty Ltd v Brumbles Australia Ltd* (2002) 54 IPR 449 at 463-464 (Gleeson CJ, McHugh, Gummow, Hayne and Callinan JJ).

¹³⁰ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 449 (Kirby J).

¹³¹ Some of the articulations are conveniently collected in *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 477-478 (Callinan J).

¹³² *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 434 (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

¹³³ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [52]-[54]; 235 ALR 202 at 217-218 (Gummow, Hayne, Callinan, Heydon and Crennan JJ).

¹³⁴ This certainly appears to be the case in assessing chemical, biochemical and biotechnology inventions. See, eg, Lawson C, "Patenting Genetic Materials' Unresolved Issues and Promoting Competition in Biotechnology" (2004) 16 *Information Economics and Policy* 91 at 99-103. Although there are some exceptions; see, eg, *Nutrasweet Australia Pty Ltd v Ajinomoto Co Inc* (2005) 67 IPR 381 at 392-394 (Finkelstein J).

¹³⁵ *Olin Mathieson Chemical Corp v Biorex Laboratories Ltd* [1970] RPC 157 at 187-188 (Graham J).

¹³⁶ *Re O'Farrell* 853 F 2d 894 at 903 (Fed Cir 1988).

¹³⁷ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 443 (Gleeson CJ, Gaudron, Gummow and Hayne JJ). See also *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2000) 51 IPR 375 at 406 (Wilcox, Merkel and Emmett JJ).

¹³⁸ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 434 (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

¹³⁹ See *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 419 (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

the hypothetical formulator would, having tried the first simple formulation, have done substantially what Astra did: submitted it to appropriate tests, including tests for stability on manufacture and on storage and for acid resistance.¹⁴⁰

The joint judgment rejected this approach saying the trial judge had erred:¹⁴¹

The tracing of a course of action which was complex and detailed, as well as laborious, with a good deal of trial and error, with dead ends and the retracing of steps is not the taking of routine steps to which the hypothetical formulator was taken as a matter of course.¹⁴²

In effect, this appears to establish close to a per se rule for the *Patents Act 1990* (Cth) that an invention is not obvious because proving that an inventor would be directly led as a matter of course to the invention in the expectation of success is likely to be established *only* in the circumstances where the invention has already been made or practiced.¹⁴³ As the onus is on the challenger of the patent's validity,¹⁴⁴ this is, in practice, a requirement to show that inventor would produce the claimed invention, and that *any* doubts along the way to the claimed invention (that is, *any* possibility of an unexpected result) favour a non-obviousness finding – a significantly difficult task facing any challenger.¹⁴⁵

Further criticism can be directed to the High Court's reliance in *Aktiebolaget Hässle* on the propositions of Graham J in *Olin Mathieson* and Rich J in *O'Farrell*. In both instances the factual circumstances were directed to a different problem and the nuanced reasons given and the likely limitations in those decisions appear to have been overlooked by the High Court. In *Olin Mathieson* the patent was argued to be obvious as the prior art publications disclosed a useful tranquilliser compound and that the inventor "would be driven inevitably, as a matter of course, to make [the] particular substitution" as one of a "very short list" of possibilities to making an alternative, and non-infringing tranquilliser compound.¹⁴⁶ Importantly, the claims were directed to finding compounds within a known class of therapeutic compounds, so that Graham J's formulation of "directly led as a matter of course" refers to the particular compounds and not their possible therapeutic uses (or qualities). This is important as Graham J's formulation is derived from the so-called "Cripps question" in *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 173 that specifically made reference to "valuable therapeutic agents" (discussed further below). Without the context of the particular facts in *Olin Mathieson*, an important qualitative aspect of the "Cripps question", and another dimension to the assessment of obviousness, might be overlooked.¹⁴⁷ Further, the terms "in

¹⁴⁰ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (1999) 44 IPR 593 at 626 per Lehane J.

¹⁴¹ Although, notably, the joint judgement also rejected the trial judge's conclusion because he had taken as his starting point information that was not part of the common general knowledge: *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 436 (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

¹⁴² *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 436 per Gleeson CJ, Gaudron, Gummow and Hayne JJ.

¹⁴³ And even this may not be enough, recalling that in *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [120], [165]; 235 ALR 202 at 234, 241 (Gummow, Hayne, Callinan, Heydon and Crennan JJ) the presence of the claimed integers in other forms of the door locks was not sufficient to form part of either the common general knowledge or the additional prior art information.

¹⁴⁴ See *Firebelt Pty Ltd v Brambles Australia Ltd* (2002) 54 IPR 449 at 458-459 (Gleeson CJ, McHugh, Gummow, Hayne and Callinan JJ).

¹⁴⁵ How expert evidence should be presented so that it has any probative value also poses significant challenges: see O'Connell K and Cooke J, "Australia: A Patentee's Paradise" (2003) 25 *European Intellectual Property Review* 481. Notably, the balance of probabilities standard was adopted from 1 April 2002 for examination on the commencement of the *Patents Amendment Act 2001* (Cth), s 3 and Sch 1. See also Commonwealth, *Parliamentary Debates*, House of Representatives, 24 May 2001, pp 26974-26975 (Warren Entsch, Parliamentary Secretary to the Minister for Industry, Science and Resources); IPCRC, n 3, pp 166-167; Advisory Council on Industrial Property, *Review of Enforcement of Industrial Property Rights* (AGPS, 1999) p 15. However, the standard to be applied by a court is less certain, with courts recognising that the burden may shift during proceedings and that evidence to reject a patent must be clear. See, eg, *Interlego AG v Toltoys Pty Ltd* (1973) 130 CLR 461 at 482 (Barwick CJ and Mason J); *Commissioner of Patents v Microcell Ltd* (1959) 102 CLR 233 at 244-245 (Dixon CJ, McTiernan, Fullagar, Taylor and Windeyer JJ).

¹⁴⁶ *Olin Mathieson Chemical Corp v Biorex Laboratories Ltd* [1970] RPC 157 at 183 per Graham J.

¹⁴⁷ See, eg, *R v Glaxo Group Ltd's Patent* [2004] RPC 43 at 857-858 (Pumfrey J).

the expectation that it might well" in Graham J's formulation are misleading in that depending on the particular facts and circumstances there may be instances where the rational next step within the common general knowledge (and other relevant information) might not be considered obvious.¹⁴⁸

Then, in *O'Farrell* the patent claimed a plasmid expression system that included a portion of the *Escherichia coli* lactose operon for expressing heterologous gene products fused to the marker beta-galactosidase protein.¹⁴⁹ An earlier publication (Polisky) had reported on a similar plasmid expression system and explicitly suggested a substitution that was the difference between the claimed invention and the prior art, and then presented preliminary evidence suggesting that the method could be used to make proteins of the kind made by the invention.¹⁵⁰ Another publication also described a general method for inserting a piece of chemically synthesised DNA into a plasmid (Bahl).¹⁵¹ The question was whether the invention was obvious in the light of these prior publications because there was some uncertainty about whether the predictions in the publications could actually be put into practice.¹⁵² The appellant contended that "without such certainty the predictions in the Polisky paper, which hindsight now shows to have been correct, were merely invitations to those skilled in the art to try to make the claimed invention", and that the earlier decision rejecting the patent "amounts to the application of a standard of 'obvious to try' to the field of molecular biology, a standard which this court and its predecessors have repeatedly rejected as improper grounds".¹⁵³ In concluding that the invention was indeed obvious, Rich J stated:

It is true that this court and its predecessors have repeatedly emphasized that "obvious to try" is not the standard ... However, the meaning of this maxim is sometimes lost. Any invention that would in fact have been obvious ... would also have been, in a sense, obvious to try. The question is: when is an invention that was obvious to try nevertheless non-obvious?

The admonition that "obvious to try" is not the standard ... has been directed mainly at two kinds of error. In some cases, what would have been "obvious to try" would have been to vary all parameters or try each of numerous possible choices until one possibly arrived at a successful result, where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful ... In others, what was "obvious to try" was to explore a new technology or general approach that seemed to be a promising field of experimentation, where the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it ... Neither of these situations applies here.

Obviousness does not require absolute predictability of success. Indeed, for many inventions that seem quite obvious, there is no absolute predictability of success until the invention is reduced to practice. There is always at least a possibility of unexpected results that would then provide an objective basis for showing that the invention, although apparently obvious, was in law non-obvious ... For obviousness ... all that is required is a *reasonable expectation of success*. ... The information in the Polisky reference, when combined with the Bahl reference provided such a reasonable expectation of success.¹⁵⁴

The significance of Rich J's decision is that his approach to "obvious to try" is more nuanced than the High Court's assertion that "any criterion which adopts a notion of 'obvious to try' has been rejected in a long series of decisions".¹⁵⁵ Importantly, the United States courts have rejected the non-nuanced "obvious to try" standard in chemical compound cases because it is invariably desirable, and hence obvious to test the efficacy and properties of closely related analogues of a given

¹⁴⁸ See, eg, *R v Glaxo Group Ltd's Patent* [2004] RPC 43 at 858-859 (Pumfrey J) citing *Norton Healthcare v Beecham Group plc* (unreported, 19 June 1997, Aldous LJ).

¹⁴⁹ *Re O'Farrell* 853 F 2d 894 at 895 (Fed Cir 1988) (Rich J).

¹⁵⁰ *Re O'Farrell* 853 F 2d 894 at 901 (Fed Cir 1988) (Rich J).

¹⁵¹ *Re O'Farrell* 853 F 2d 894 at 902 (Fed Cir 1988) (Rich J).

¹⁵² *Re O'Farrell* 853 F 2d 894 at 902 (Fed Cir 1988) (Rich J).

¹⁵³ *Re O'Farrell* 853 F 2d 894 at 902 (Fed Cir 1988) (Rich J).

¹⁵⁴ *Re O'Farrell*, 853 F 2d 894 at 903 (Fed Cir 1988) (emphasis added).

¹⁵⁵ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 441 per Gleeson CJ, Gaudron, Gummow and Hayne JJ.

compound.¹⁵⁶ As the decision in *O'Farrell* shows, the prior art publications alluded to the invention, and while this might not be characterised as "obvious to try", the invention was obvious and "would also have been, in a sense, obvious to try".¹⁵⁷ Put simply, Rich J's proposition, and the flourish imposed by Graham J's formulation, obscures the actual statutory language and limits the various dimensions of the obviousness inquiry.

Perhaps the particular *Aktiebolaget Hässle* formulation might be confined to some claims in the pharmaceutical and biotechnology fields of invention,¹⁵⁸ with the (potentially) more robust standard in other fields of invention being that adopted in *Firebelt* and following the decision in *Minnesota Mining*: "[t]he question is, is the invention itself obvious".¹⁵⁹ In other words, returning to "is the invention itself obvious"¹⁶⁰ without the flourish that the inventor "would have been led directly as a matter of course to pursue one avenue" in the expectation of success.¹⁶¹ This seems unlikely as the recent Federal Court decisions show that the *Aktiebolaget Hässle* formulation is gaining wider and general application,¹⁶² and that there are no readily discernable technology specific considerations.¹⁶³ Added to this, the uncertainty now imposed by the High Court in *Lockwood* referring to obviousness as "an overtly qualitative test rather than a quantitative one",¹⁶⁴ and stating:

The emergence of the independent requirement for an inventive step ... 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 terms of ss 7(2), 7(3) and

¹⁵⁶ See, for a recent example, *Pfizer Inc v Apotex, Inc* 480 F 3d 1348 at 1365-9 (Fed Cir 2007) (Michel J).

¹⁵⁷ *Re O'Farrell* 853 F 2d 894 at 903 per Rich J (Fed Cir 1988).

¹⁵⁸ The only apparent exception to the obviousness formulation considered by the High Court majority in *Aktiebolaget Hässle* was where the inventor arrived at the invention through a "flash of genius" rather than "prolonged investigation": *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 428-429 (Gleeson CJ, Gaudron, Gummow and Hayne JJ) quoting *Dow Corning Corporation's Application* [1969] RPC 544 at 560 (Graham J). Other similar considerations might be by arriving at the invention "by a happy flash of inspiration", "by accident" or "remembered from a dream": see *Advanced Building Systems Pty Ltd v Ramsel Fasteners (Aust) Pty Ltd* (1998) 194 CLR 171 at 187 (Brennan CJ, Gaudron, McHugh and Gummow JJ); *Wellcome Foundation Ltd v VR Laboratories (Aust) Pty Ltd* (1981) 148 CLR 262 at 282 (Windeyer J). Contrary to the apparent universality of this standard, a technology specific application of patent rules has been suggested in other jurisdictions: see, eg Burk D and Lemley M, "Is Patent Law Technology-Specific?" (2002) 17 Berkeley Technology LJ 1155.

¹⁵⁹ *Firebelt Pty Ltd v Brambles Australia Ltd* (2002) 54 IPR 449 at 464 (Gleeson CJ, McHugh, Gummow, Hayne and Callinan JJ) approving the approach in *Firebelt Pty Ltd v Brambles Australia Ltd* (1998) 43 IPR 83 at 110 (Dowsett J) and *Firebelt Pty Ltd v Brambles Australia Ltd* (2000) 51 IPR 531 at 538 (Spender, Drummond and Mansfield JJ). See also *Minnesota Mining & Manufacturing Co v Beiersdorf (Australia) Ltd* (1980) 144 CLR 253 at 293 (Aickin J); *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 444 (McHugh J), 459-462 (Kirby J).

¹⁶⁰ *Firebelt Pty Ltd v Brambles Australia Ltd* (2002) 54 IPR 449 at 464 (Gleeson CJ, McHugh, Gummow, Hayne and Callinan JJ).

¹⁶¹ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 434 (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

¹⁶² See, eg, *KD Kanopy Australasia Pty Ltd v Insta Image Pty Ltd* (2007) 71 IPR 615 at 635 (Kiefel J) (adopted without comment the *Aktiebolaget Hässle* formulation); *JMVB Enterprises Pty Ltd v Camoflag Pty Ltd* (2006) 70 IPR 77 at 81 (Emmett, Stone and Bennett JJ) (cited without comment the test as articulated by the trial judge that had adopted the *Aktiebolaget Hässle* formulation); *NSI Dental Pty Ltd v University of Melbourne* (2006) 69 IPR 542 at 569-570 (Tamberlin J) (applied without comment the *Aktiebolaget Hässle* formulation); *Commissioner of Patents v Emperor Sports Pty Ltd* (2006) 67 IPR 488 at 490 (Heerey, Kiefel and Bennett JJ) (cited without comment the test as articulated by the delegate of the Commissioner that had adopted the *Aktiebolaget Hässle* formulation); *Pfizer Overseas Pharmaceuticals v Eli Lilly and Co* (2005) 68 IPR 1 at 60-61 (French and Lindgren JJ), 83 (Crennan J) (applied the test according to the *Aktiebolaget Hässle* formulation); *Fresenius Medical Care Australia Pty Ltd v Gambro Pty Ltd* (2005) 67 IPR 230 at 253-257 (Wilcox, Branson and Bennett JJ) (accepted the test applied by the trial judge that had adopted the *Aktiebolaget Hässle* formulation); *Nutrasweet Australia Pty Ltd v Ajinomoto Co Inc* (2005) 67 IPR 381 at 392-394 (Finkelstein J) (applied something very like the *Aktiebolaget Hässle* formulation). Although this approach is not universal: see, eg *Neurizon Pty Ltd v LTH Consulting & Marketing Services Pty Ltd* (2004) 58 IPR 93 at 135-136 (Dowsett J).

¹⁶³ See *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [50]-[56]; 235 ALR 202 at 216-218 (Gummow, Hayne, Callinan, Heydon and Crennan JJ).

¹⁶⁴ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [43]; 235 ALR 202 at 214 per Gummow, Hayne, Callinan, Heydon and Crennan JJ.

18(1)(b)(ii) of the [*Patents Act 1990* (Cth)] ... reflect the intention of ... legislatures to "rebalance" those policy considerations, by raising the threshold of inventiveness.¹⁶⁵

Meanwhile, the majority accepted *Aktiebolaget Hässle* and then confirmed that a "scintilla of invention" remains sufficient in Australian law to support the validity of a patent,¹⁶⁶ albeit that the conception of "scintilla" is itself circular, "a fiction invented by perverse astuteness to escape a difficulty which itself only had created".¹⁶⁷ These are unfortunate circumstances as non-obviousness is the central economic justification for awarding patents and ameliorating the likely anti-competitive effects of granting statutory privileges of exclusion (the "exclusive rights").¹⁶⁸ However, in *Lockwood* the High Court did note in obiter dictum that the broader claim 1 lacked an inventive step compared to the narrower claim 13 based on the prior art base according to s 7(3), indicating that the obviousness inquiry is not entirely irrelevant.¹⁶⁹ The question then remains, how might the threshold standard of obviousness be re-invigorated and restored to a meaningful requirement that promotes the policy objectives (whatever they might be) of the *Patents Act 1990* (Cth)?

Understanding the origins of the present threshold is a part of better understanding how a solution might be crafted. Obviousness in some form has always been a part of Australian patent law.¹⁷⁰ However, the origins of the High Court's treatment of the obviousness threshold in *Aktiebolaget Hässle* may be traced to the "peculiar character"¹⁷¹ of chemical inventions.¹⁷² The early "chemical cases" introduced an argument that for "routine" experimentation where the result was not necessarily known (at a time when there was "no prevision" in chemistry),¹⁷³ conducting the experiments (sometimes termed "verification") to reveal the speculated chemicals was necessary before the result could be said to exhibit the necessary obviousness. The question then became one of how much verification was necessary so that it was not "routine" and so not obvious. For example, in *Sharpe & Dohme Inc* the English Court of Appeal considered a patent that claimed an improved method of manufacturing all the classes of higher alkyl resorcinols with therapeutic values having the formula $C_6H_3(OH)_2R$, where R was "an alkyl group containing more than two carbon atoms (except *n*-propyl and *n*-butyl)".¹⁷⁴ The appellant's primary contention in dealing with the subject matter (inventive step)

¹⁶⁵ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [48]; 235 ALR 202 at 216 per Gummow, Hayne, Callinan, Heydon and Crennan JJ (emphasis added; footnote omitted).

¹⁶⁶ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [52]; 235 ALR 202 at 217 (Gummow, Hayne, Callinan, Heydon and Crennan JJ).

¹⁶⁷ Citing an English authority from 1595 in Potts H, "The Definition of Invention in Patent Law" (1944) 7 Mod LR 113 at 116-117.

¹⁶⁸ See, eg, IPCRC, n 3, p 154; Federal Trade Commission, n 3, pp 4-4 - 4-6; Treasury, n 10, pp 82-83. See also Lunney G, "Patent Law, the Federal Circuit, and the Supreme Court: A Quiet Revolution" (2004) 11 *Supreme Court Economic Review* 1 at 56-78.

¹⁶⁹ *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [29]; 235 ALR 202 at 210-211 (Gummow, Hayne, Callinan, Heydon and Crennan JJ).

¹⁷⁰ For decisions under the *Patents Act 1903* (Cth) articulating an obviousness requirement see, eg *Commissioner of Patents v Microcell Ltd* (1959) 102 CLR 233 (Dixon CJ, McTiernan, Fullagar, Taylor and Windeyer JJ); *Acme Bedstead Co Ltd v Newlands Brothers Ltd* (1937) 58 CLR 689 (Latham CJ, Starke and Dixon JJ); *Millard v Commissioner of Patents* (1918) 24 CLR 331 (Barton, Gavan Duffy and Rich JJ); *McDonald v Commissioner of Patents* (1912) 15 CLR 713 (Griffith CJ, Barton, Isaacs and Gavan Duffy JJ); *Rogers v Commissioner of Patents* (1910) 10 CLR 701 (Griffith CJ, O'Connor and Isaacs JJ); *Broken Hill South Silver Mining Co v N Guthridge Ltd* (1908) 8 CLR 187 (Isaacs J); *Linotype Co Ltd v Mounsey* (1909) 9 CLR 194 (Griffith CJ, O'Connor, Isaacs and Higgins JJ), and so on.

¹⁷¹ *May & Baker Ltd v Boots Pure Drug Co Ltd* (1950) 67 RPC 23 at 31 (Simonds LJ).

¹⁷² Although there is some support for the contention that Aickin J's formulation in *Wellcome Foundation Ltd v VR Laboratories (Aust) Pty Ltd* (1981) 148 CLR 262 at 286 about "as a matter of routine" was derived from *Olin Mathieson Chemical Corp v Biorex Laboratories Ltd* [1970] RPC 157 at 187-188 (Graham J). See *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 415 (commentary).

¹⁷³ See, eg *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 170 (Hanworth MR); *Re IG Farbenindustrie AG's Patents* (1930) 47 RPC 289 at 321 (Maugham J).

¹⁷⁴ *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 157-158 per Hanworth MR, Sargent and Lawrence LJ. See also *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1927) 44 RPC 367 at 371-372 (Astbury J).

issues was that:

until each of the chemicals had actually been made, identified and tested, no one could have foretold whether the *Nencki* reaction or the *Clemmensen* reaction would take place in the presence of resorcinol and the particular corresponding members of the fatty acid series, nor, if such reactions should take place, what the resultant compound would be, much less whether such compound would have useful properties.¹⁷⁵

First, Hanworth LJ considered that the subject matter questions was reduced to "[w]as there any inventive step, or merely verification?".¹⁷⁶ On the evidence Hanworth LJ propounded the so-called "Cripps question":¹⁷⁷

The real question is: was it for all practical purposes obvious to any skilled chemist in the state of chemical knowledge existing at the date of the patent which consists of the chemical literature available ... and his general chemical knowledge, that he could manufacture valuable therapeutic agents by making the higher alkyl resorcinols; the process to be used being first, the condensation of resorcinol with the higher fatty acids by the use of zinc chloride or similar condensing agents, and, second, the reduction of the acyl resorcinol so formed by the use of zinc amalgam and hydrochloric acid as the reducing agent?¹⁷⁸

On the evidence, Hanworth LJ considered that "verification alone was required, coupled with the ordinary skill that a chemist would be expected to provide and apply". As a consequence there was "no inventive step" or "obstacle to be overcome by invention".¹⁷⁹

Secondly, Sargent LJ identified the controversy as being not one of what the earlier documents disclose or predict, but rather, "the practical conclusions which skilled chemists would draw to the truth of their indications and the general reliability of their conclusions and predictions".¹⁸⁰ Sargent LJ considered that the documentary disclosures established that the processes were treated by their authors as processes of general application that had produced some of the claimed chemicals. In dealing with the expert evidence Sargent LJ considered the difference between the various experts was whether the earlier publications should be accepted as conclusive evidence of making the chemicals, or that verification through further research and experimentation was required before they might constitute conclusive evidence. He concluded that whatever verification was required was "something far short of an inventive step and quite insufficient to form the subject matter of a valid patent".¹⁸¹

Finally, Lawrence LJ considered that the earlier documents from the "distinguished chemists" expressed opinions in their papers that were generally applicable and that had been found to be true for similar chemicals: "therefore there was a reasonable expectation that they would apply in the case of the bodies covered by the patent", albeit that actually doing the experiment might result in failure or an unexpected result.¹⁸²

To apply a well-known process which has been successfully applied to three of the lower members of an homologous series to the next two higher members of that series and to two isomers, when the discoverers of the process, after subjecting it to extensive tests, definitely state that, in their opinion, it is so applicable, is not, in my judgment, a step calling for the exercise of an inventive faculty, but is merely a verification of the reasonable prediction of the discoverers.¹⁸³

Importantly, these conclusions, finding that the claim to the higher alkyl resorcinols was invalid for want of subject matter, were reached even though the particular combination of the process (a

¹⁷⁵ *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 188 per Lawrence LJ.

¹⁷⁶ *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 172.

¹⁷⁷ Named after Stafford Cripps KC who acted for the plaintiffs and appellants: *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 158, 162-164 (headnote).

¹⁷⁸ *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 173.

¹⁷⁹ *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 172-173.

¹⁸⁰ *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 153, 178.

¹⁸¹ *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 179-180.

¹⁸² *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 189.

¹⁸³ *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 191 per Lawrence LJ.

process of condensation followed by reduction) was known but had not been applied to obtain higher alkyl resorcinols, and that some new chemicals were obtained by the combined processes.¹⁸⁴ The evidence of the distinguished experts that without actually doing the experiment the result could not be certain ("prevision in chemistry cannot be relied on"),¹⁸⁵ and that failure or an unexpected result was possible, was given less weight than definitive (but still speculative) announcements in the earlier publications (and well known experimental techniques and methods).¹⁸⁶ Significantly, however, the decision demonstrates the arguments about "routine" experimentation and their place in revealing speculative chemicals, changing the focus from whether the result itself was obvious to how much verification was necessary so that it was no longer "routine" experimentation (and so no longer "obvious").

Subsequent courts have been unable to identify or articulate a conclusive threshold of "routine-ness", although they have maintained the focus on the obviousness of the path leading to the invention as opposed to the obviousness of the invention itself.¹⁸⁷ The United Kingdom courts have followed down the path of the "worth a try" or "obvious to try" with a reasonable expectation of success,¹⁸⁸ while the United States courts,¹⁸⁹ and now the Australia courts after *Aktiebolaget Hässle*,¹⁹⁰ have rejected this approach confining "routine-ness" to experimentation where the result itself is known.¹⁹¹ Developments in the United States and Australia dealing with the patenting of genes and gene sequences (nucleic acids) perhaps illustrate the consequences of this preferred approach.

The United States Court of Appeal for the Federal Circuit treated genes and gene sequences as chemicals, focusing the non-obviousness inquiry on the precise structure (sequence) of the chemical entity rather than the methods of obtaining it.¹⁹² The inquiry was therefore whether the precise structure (sequence) could be predicted from the prior art and not whether its structure might be derived from knowledge of the protein structure (amino acid sequence) through well known biochemical techniques. It was well known at the time that there was a relationship between the nucleic acid sequence and the amino acid sequence (the "central dogma"), albeit that the precise relationship in every case could not be predicted with absolute certainty.¹⁹³ The consequence of these decisions has been to establish, in effect, a per se rule that obviousness was never relevant in assessing the patentability of genes and gene sequences.¹⁹⁴

¹⁸⁴ *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 170 (Hanworth MR), 182 (Sargent LJ), 191 (Lawrence LJ).

¹⁸⁵ *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 170 (Hanworth MR) paraphrasing the appellant's submission.

¹⁸⁶ *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 at 172-173 (Hanworth MR), 180 (Sargent LJ), 189 (Lawrence LJ).

¹⁸⁷ The Cripps question has over the decades been subjected to a number of reformulations: see, eg *Olin Mathieson Chemical Corp v Biorex Laboratories Ltd* [1970] RPC 157 at 187-188 (Graham J), cited by the High Court in *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 433 (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

¹⁸⁸ Although this is no longer so certain, see, eg *Saint-Gobain v Fusion Provida & Electrosteel* [2005] EWCA Civ 177 at [23]-[38] (Jacobs LJ).

¹⁸⁹ See, eg *Re O'Farrell* 853 F 2d 894 at 903 (Fed Cir 1988) (Rich J), notably cited in *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 442-443 (Gleeson CJ, Gaudron, Gummow and Hayne JJ).

¹⁹⁰ See *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 442 (Gleeson CJ, Gaudron, Gummow and Hayne JJ). See also *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [50]-[54]; 235 ALR 202 at 216-218 (Gummow, Hayne, Callinan, Heydon and Crennan JJ).

¹⁹¹ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 434 (Gleeson CJ, Gaudron, Gummow and Hayne JJ). See also Lawson, n 134 at 99-103.

¹⁹² See, eg, *Re Bell* 991 F 2d 1993 (Fed Cir 1993). See also Committee on Intellectual Property Rights in the Knowledge-Based Economy, n 122, pp 91-95.

¹⁹³ See, eg, *Re Bell* 991 F 2d 1993 (Fed Cir 1993); *Re Deuel*, 51 F 3d 1552 (Fed Cir 1995). See also Nicol, n 16 at 832-833.

¹⁹⁴ See, eg, Committee on Intellectual Property Rights in the Knowledge-Based Economy, n 122, p 75.

Similarly, in Australia, the Federal Court, in *Genetics Institute Inc v Kirin-Amgen Inc (No 3)* (1998) 41 IPR 325, considered the patentability of genes and gene sequences in an appeal from an opposition decision by a delegate of the Commissioner. In that case the protein erythropoietin was well known and its function was well characterised, although its actual amino acid sequence was uncertain. The issue of obviousness was not disputed in the Federal Court and appears to have been accepted without argument.¹⁹⁵ However, in the opposition proceedings, the Deputy Commissioner appears to have favoured an approach that considered the obviousness of the structure (sequence) as opposed to how it was obtained, even though evidence was presented about the (well known) methodology used to clone the erythropoietin "gene".¹⁹⁶

I conclude that before the priority date, the amino acid sequence of erythropoietin was not known in Australia at a level sufficient to identify the erythropoietin gene; more particularly, the required knowledge was not obvious in Australia. Accordingly, the DNA sequence for erythropoietin was not obvious, and products derived from a knowledge of that sequence were similarly not obvious. Accordingly, I find that the ground of obviousness has not been made out with respect to any of the inventions claimed.¹⁹⁷

The consequence of this approach in both the United States and Australia has been to shift the focus of attention for genes and gene sequences claims on to other patentability issues including utility (or industrial applicability, especially for expressed sequence tags – gene sequences with, at best, only a predicted function), written description, and so on. So, for example, in assessing the utility of gene and gene sequence claims, a part of the response to the low obviousness threshold was to introduce examination guidelines that required a "specific, substantial and credible" utility demonstrated in the application.¹⁹⁸ In other words, a low obviousness threshold has spawned developments in other areas of patent law attempting to compensate for that low threshold. While this may have had the desired effect and limited the scope of certain claims,¹⁹⁹ it is not certain that a better approach might not have been to maintain a more robust generally applicable non-obviousness requirement.²⁰⁰ Perhaps more concerningly the "peculiar character" of chemical patents appears to have influenced the broader test of obviousness and lowered the threshold for *all* inventions. Applying these considerations more

¹⁹⁵ This was perhaps surprising as the Federal Court conducts a *de novo* hearing and might have been expected, as the forum for reviewing an administrative decision of the Commissioner, as opposed to merely resolving a dispute between the parties, to consider every aspect of patentability even though this might not necessarily be in the best commercial interests of those challenging and defending patent claims: see Lawson, n 16 at 110.

¹⁹⁶ *Kirin-Amgen Inc v Board of Regents of University of Washington* (1995) 33 IPR 557 at 564 (Deputy Commissioner of Patents). A similar approach has been accepted for other complex biological materials: see, eg Lawson, n 134 at 99-103.

¹⁹⁷ *Kirin-Amgen Inc v Board of Regents of University of Washington* (1995) 33 IPR 557 at 567 per Deputy Commissioner of Patents.

¹⁹⁸ United States Patent and Trademark Office, "Utility Examination Guidelines" (2001) 66 *Federal Register* 1092 at 1095 (utility); IP Australia, n 80, para [1.3.8.6.3] (industrial applicability). See also Nicol, n 16 at 839-840; Howlett M and Christie A, "An Analysis of the Approaches of the Trilateral and Australian Patent Offices to Patenting Partial DNA Sequences (ESTs)" (2004) 15 AIPJ 156 at 171-172.

¹⁹⁹ See, eg *Re Fisher*, 421 F 3d 1365 at 1369-1376 (Fed Cir 2005). See also Joly Y, "Wind of Change: Re Fisher and the Evolution of the American Biotechnology Patent Law" (2006) 24 *Law in Context* 67. However, the effectiveness of the guideline approach is not absolutely certain to limit the scope of gene and gene sequence claims: see, eg Paradise J, Andrews L and Holbrook T, "Patents on Human Genes: An Analysis of Scope and Claims" (2005) 307 *Science* 1566 at 1566-7.

²⁰⁰ See Radar J's dissent in *Re Fisher*, 421 F 3d 1365 at 1382 (Fed Cir 2005) stating: "The proper tool for assessing sufficient contribution to the useful arts is the obviousness requirement of 35 USC §103. Unfortunately this court has deprived the Patent Office of the obviousness requirement for genomic inventions ... rather than distort the utility test, the Patent Office should seek ways to apply the correct test, the test used world wide for such assessments (other than in the United States), namely inventive step or obviousness." See also Varma A and Abraham D, "DNA is Different: Legal Obviousness and the Balance between Biotech Inventors and the Market" (1996) 9 *Harv J of Law & Tech* 53. The demise of the "teaching, suggestion, motivation test" perhaps suggests that even the US is seeking to redress the imbalance, see, eg *KSR International Co v Teleflex Inc* 550 US ___, 127 S Ct 1727 (2007). See also Committee on Intellectual Property Rights in the Knowledge-Based Economy, n 122, pp 91-95; cf Petherbridge L and Wagner RP, "The Federal Circuit and Patentability: An Empirical Assessment of the Law of Obviousness" (2007) 85 *Texas L Rev* 2051 at 2103-7, stating at 2105: "[i]n our view, the [teaching, suggestion, motivation test] emerges from *KSR International* largely intact, so long as it is applied in ways that maintain flexibility".

broadly, this means that patents are less likely to be refused for obviousness reasons, and so more likely to be granted for minor advances as opposed to substantial advances including many minor inventions that would have been made anyway.²⁰¹

The next question is what should be the policy objectives of the *Patents Act 1990* (Cth)? The only way to properly determine a patent policy is to undertake a consultation and an analysis according to the analytical approach endorsed by the *Competition Principles Agreement*.²⁰² While there has been some Australian Government action in this area,²⁰³ it has been at best superficial and has failed to grapple with the detail and complexity necessary to provide useful guidance.²⁰⁴ There are, for example, some critical choices that need to be made in crafting a policy that will inform the inventive step inquiry. Comparing the "reward theory" and the "prospect theory" illustrate this contention. The "reward theory" views a patent as an incentive to undertake uncertain invention with an opportunity to appropriate greater commercial returns. This is considered to foster socially beneficial inventions, but with significant social costs on short term inefficiencies in the market from the anti-competitive effects of the patent (primarily restricted output and higher prices) appropriating public goods (ideas) that would otherwise be used.²⁰⁵ In contrast, the "prospect theory" views patents as promoting the commercial development of inventions with patents granted to early stage inventions facilitating the bringing of a usable invention to the market and acting as an incentive to maximise the commercial value from exploiting the invention with relief from free-riders.²⁰⁶

These different theories pose significantly different consequences for the inventive step threshold. The "reward theory" imposes high thresholds for patentability seeking to limit patents to only those inventions that would not have been made with significant concerns about the effects on competition. In contrast, the "prospect theory" imposes lower thresholds giving the patent holder control over the development process and possibly increasing the efficiency of commercialisation (that otherwise may not occur) with less concern about the effects on competition.²⁰⁷ Applying the analytical approach

²⁰¹ See, eg, Federal Trade Commission, n 3, pp 4-4 - 4-6; Treasury, n 10, pp 82-83.

²⁰² See, eg, Office of Best Practice Regulation, n 12, pp 2-6. See also Lawson, n 117. Notably, this refers to the method and methodology that should be applied, with various theories and contentions examined within the rubric of the *Competition Principles Agreement* and the method and methodology advocated there: see, eg, Lawson C and Hindmarsh R, "Regulating Genetically Modified Organisms: A Case Study Assessing Regulatory Quality and Performance" (2007) 35 ABLR 181.

²⁰³ See, eg, IPCRC, n 3; National Competition Council, *Review of Sections 51(2) and 51(3) of the Trade Practices Act 1974* (AGPS, 1999).

²⁰⁴ A good example has been the ongoing reviews (these include Australian Law Reform Commission, *Genes and Ingenuity: Gene Patenting and Human Health*, Report No 99 (SOS Printing Group, 2004) pp 555-580; Trade Practices Act Review Committee, *Trade Practices Act Review* (Canprint Communications, 2003) p 86; IPCRC, n 3, pp 202-215; National Competition Council, n 203, pp 149-246; Independent Committee of Inquiry into Competition Policy in Australia, n 115, pp 149-151; Industrial Property Advisory Committee, *Patents, Innovation and Competition in Australia* (AGPS, 1984) pp 22-26; Trade Practices Act Review Committee, *Report to the Minister for Business and Consumer Affairs* (AGPS, 1976)) of the exemption of certain conditions in patent licenses and assignments from the competition provisions of the *Trade Practices Act 1974* (Cth), Pt IV, without actually dealing with why exemption remains so apparently important when its exact meaning remains so uncertain, and why there is a need for favourable treatment in Australia when favourable treatment in one jurisdiction may not apply in another jurisdiction. See Lawson C, "Rethinking the Exemption of Some Patent License and Assignment Conditions from the Trade Practices Act 1974 (Cth) Competition Laws" (2005) 2 MqJBL 47.

²⁰⁵ See, eg Subcommittee on Patents, Trademarks and Copyrights of the Senate Committee on the Judiciary, *An Economic Review of the Patent System* (85th Congress, 2nd Session, 1958) (Machlup Report). A related view has been expressed by Posner J in *Roberts v Sears Roebuck & Co* 723 F 2d 1324 at 1346 (Fed Cir 1983): "if a court thinks an invention for which a patent is being sought would have been made as soon or almost as soon as it was made even if there were no patent laws, it must pronounce the invention obvious and the patent invalid". See also *Graham v John Deere Co* 383 US 1 at 11 (1966). A contrary view is that "the requirement of inventiveness is unrelated to the commercial justification for patents": Laddie H, "Patents - What's Invention Got To Do With It?" in Vaver D and Bentley L (eds) *Intellectual Property in the New Millennium: Essays in Honour of William Cornish* (Cambridge University Press, 2004) p 94.

²⁰⁶ See, eg, Kitch E, "The Nature and Function of the Patent System" (1977) 20 *Journal of Law and Economics* 265; Merges R, "Uncertainty and the Standard of Patentability" (1992) 7 *High Technology LJ* 1.

²⁰⁷ Perhaps importantly too, the patent should only operate to limit competition (restrict access and charge higher prices) so that the inventor can recoup their past investment, and not as a means of cross-subsidies for future research and development, albeit that the pharmaceutical industry regularly asserts that patent royalties are necessary to fund future research and development.

endorsed by the *Competition Principles Agreement* provides a framework for informing, making and justifying these choices and significant insights into how particular thresholds might be considered and applied.²⁰⁸ Without such an approach the current "policy" will remain "constrained by the very 'haze of assumptions about rights and rewards for inventors, special pleading by those directly involved, and a plethora of legal procedures and criteria in the *Patents Act*' that it deplors".²⁰⁹ Understanding exactly what the inventive step threshold is intended to achieve will immediately assist those trying to apply the standard by establishing a context and purpose for the relevant evidence and how it might be assessed.²¹⁰

The next question is how to re-invigorate and raise the threshold if that is necessary to promote the desired policy objectives? At present, the inventive step threshold requires evidence before the decision-maker (the Commissioner or a judge) of the relevant prior art and prior art information, the common general knowledge in the relevant art, the relevant prior art that the skilled person in the relevant art would be reasonably expected to have ascertained, understood and regarded as relevant, and whether the claim was "obvious" to a non-inventive skilled worker in the field equipped with the common general knowledge in that particular field of endeavor.²¹¹ Providing a decision-maker with more relevant and timely evidence will likely improve the quality of the decision, particularly at the stage of examination. The likely solution, at least in part, may be to require applicants to commit to providing relevant information about the elements of obviousness in their applications (patent request and complete specification),²¹² and a public record of their negotiations with the Commissioner about the objections (subject to the proper protection of commercially sensitive information) in preparing the report for examination.²¹³ The scope of the claims forming part of the complete specification is part of the negotiations and there seems no reason why that process might not also be extended to a conception of the invention – to isolate and identify what is the inventive concept for which the applicant is claiming "exclusive rights".²¹⁴ Further, at the stage of examination the applicant bears the onus of proof to satisfy the examiner on the balance of probabilities that a claimed invention is inventive (and novel),²¹⁵ and there seems no reason why this should not include their characterisation

See, for a recent example, Goren D, "Pharmaceutical Innovation and Intellectual Property Rights: A Global Public Good?" in Perez Pugatch M, *The Intellectual Property Debate: Perspectives from Law, Economics and Political Economy* (Edward Elgar, 2006) pp 164-165. This is perhaps a misconception also promulgated by some of the judiciary: see, eg, Laddie, n 205, p 92.

²⁰⁸ Further, following such a process the quality and performance of the *Patents Act 1990* (Cth) will not be open to question with the challenge of "ill conceived or poor quality regulations" that can "create barriers to trade and commerce, impede innovation and increase business costs and consumer prices": Productivity Commission, *Regulation and Its Review 2004-2005*, Annual Report Series (Productivity Commission, 2005) p 1. See also Organisation for Economic Co-operation and Development (OECD), *Special Group on Regulatory Policy, Taking Stock of Regulatory Reform: A Multidisciplinary Synthesis* (OECD, 2004); OECD, *OECD Report on Regulatory Reform: Synthesis* (OECD, 1997).

²⁰⁹ Industrial Property Advisory Committee, n 204, p 80.

²¹⁰ Perhaps a good example of this has been the interpretation of *Trade Practices Act 1974* (Cth), s 46, and that once an economic context was accepted by the court as the basis of policy, this informed the relevant evidence and how it was to be assessed: see, eg, *Queensland Wire Industries Pty Ltd v Broken Hill Proprietary Co Ltd* (1989) 167 CLR 177 at 194 (Deane J noting that while the Trade Practices Commission was not allowed to intervene, the submissions by the Commission as to the proper construction and operation of the Act were essentially presented by QWI: at 179-180). See also Brunt M, "Market Definition" Issues in Australia and New Zealand Trade Practices Litigation" (1990) 18 ABLR 86 at 93-107. Perhaps it is significant that IP Australia does not appear to intervene or bring test cases to clarify or assert a particular policy perspective, and that this might assist in resolving important policy issues: see IPCRC, n 3, p 154.

²¹¹ See *Patents Act 1990* (Cth), ss 7(2), 18(1)(b)(ii), Sch 1.

²¹² This is presently required by the European Patent Office: see *Implementing Regulations to the Convention on the Grant of European Patents*, r 27(1) that provides, in part: "The description shall ... (c) disclose the invention, as claimed, in such terms that the technical problem (even if not expressly stated as such) and its solution can be understood, and state any advantageous effects of the invention with reference to the background art".

²¹³ *Patents Act 1990* (Cth), ss 49, 104. See also *Patent Regulations 1991* (Cth), rr 3.19(2), 10.5(1)(b).

²¹⁴ This may be more extensive than just a re-statement of the claims: see *Windsurfing International Inc v Tabur Marine (Great Britain) Ltd* [1985] RPC 59 at 65 (Oliver LJ); *Unilever plc v Chefaro Proprietaries Ltd* [1994] RPC 567 at 580 (Jacob J); *Raychem Corp's Patents* [1998] RPC 31 at 37 (Laddie J).

²¹⁵ See IP Australia, n 80, paras [2.1.2.4], [2.5.3.10], [2.13.5.2.2].

of the inventive concept.²¹⁶ Presumably individuals and firms making patent applications that proceed to examination have properly assessed the merits of their invention, and with their expert advisers, established a rational basis for believing they satisfy the statutory thresholds. The Commissioner and third parties are less likely to have access to the relevant information (an information asymmetry) about the invention and such a disclosure would go a long way to balancing the meaningfulness and usefulness of the disclosure obligations inherent in patent publication. This reduction of the conception of the invention at the time of the application would also address to some degree the problems of hindsight bias when later trying to establish the state of common general knowledge at the priority date.

Perhaps the most significant advance in considering the quantum of the obviousness would be to acknowledge that inventive step is purely a question of fact, and that this is a matter best determined by an examiner, the Commissioner or a trial judge (or even a jury)²¹⁷ adopting the formulation in *Firebelt* and following the decision in *Minnesota Mining*: “[t]he question is, is the invention itself obvious”²¹⁸ and the plain meaning of those words.²¹⁹ In short, the approach of McHugh J and Kirby J in *Aktiebolaget Hässle* accepting that the matter is purely a qualitative determination (“jury question”) without the restrictions of the various and increasingly narrow verbal formulations,²²⁰ and changing the focus back from how much verification is necessary so that the invention is no longer “routine” experimentation (and so no longer “obvious”) to whether the result itself was obvious.²²¹ Reducing the standard to, in effect, a per se rule according to the joint judgment in *Aktiebolaget Hässle* might avoid difficult assessments and the plague of hindsight bias, but it completely defeats the purpose of having such threshold standards.

Further, placing inventive step into a broader context of a clearly articulated policy that justifies (in the *Competition Principles Agreement* sense) the *Patents Act 1990* (Cth) will provide considerable guidance to an examiner, the Commissioner or a trial judge, focus the evidence towards properly identifying the conception of what has been invented, and then assist in assessing whether there really is such a sufficient quality of advance on the existing knowledge and information (so as not to unduly undermine the incentives of inventors and follow-on inventors, promote patent proliferation, unduly restrict “freedom to operate”, require unnecessary licensing, and so on). While undoubtedly difficult, a meaningful obviousness requirement is necessary for a properly functioning, efficient and effective (competitive) market and economy.

²¹⁶ This is *not* an argument that the findings of the examination should be binding on later proceedings. However, as an administrative decision to grant a patent that is subsequently reviewed by a court, there seems no reason to limit the material evidence available in those proceedings to include application documentation. That is, to conduct full “merits review” of patent decisions. See, eg. Administrative Review Council, *Administrative Review of Patents Decisions*, Report No 43 (Attorney-General’s Department Printing & Design, 1998) p 16. Notably, this was allowed under the *Patents Act 1903* (Cth), s 51 in court proceedings where it was “desirable in the interests of justice and ought to be allowed”.

²¹⁷ The US continues to rely on juries determining the issue of obviousness, albeit that the jury’s determination of obviousness is a “question of law” that may be reviewed on appeal: see, eg. *Princeton Biochemicals Inc v Beckman Coulter Inc* 411 F 3d 1332 (Fed Cir 2005).

²¹⁸ *Firebelt Pty Ltd v Brambles Australia Ltd* (2002) 54 IPR 449 at 464 (Gleeson CJ, McHugh, Gummow, Hayne and Callinan JJ); *Minnesota Mining & Manufacturing Co v Beiersdorf (Australia) Ltd* (1980) 144 CLR 253 at 293 (Aickin J), 259, (Barwick CJ), 260 (Stephen J), 260, (Mason J), 298 (Wilson J). See also *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 444 (McHugh J), 459-462 (Kirby J).

²¹⁹ See *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 427 (Gleeson CJ, Gaudron, Gummow and Hayne JJ), 444 (McHugh J), 463 (Kirby J), 477 (Callinan J) citing *General Tire & Rubber Co v Firestone Tyre & Rubber Co Ltd* [1972] RPC 457 at 497 (Sachs, Buckley and Orr LJ). See also *Lockwood Security Products Pty Ltd v Doric Products Pty Ltd (No 2)* (2007) 81 ALJR 1070 at [51]; 235 ALR 202 at 216 (Gummow, Hayne, Callinan, Heydon and Crennan JJ).

²²⁰ *Aktiebolaget Hässle v Alphapharm Pty Ltd* (2002) 212 CLR 411 at 444-445 (McHugh J), 447-449 (Kirby J).

²²¹ See *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1928) 45 RPC 153 (Hanworth MR, Sargent and Lawrence LJ).

