Chemical Products and Proportionate Patents Before and After Generics v Lundbeck

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Chemical Products and Proportionate Patents
Before and After Generics v Lundbeck

Justine Pila*

In Generics Ltd v Lundbeck A/S [2009] UKHL 12, the House of Lords affirmed the validity of a patent for a chemical product – an isolated stereoisomer – supported by a method of producing the product, but protecting the chemical product as such independent of the method by which it was made. In so doing, it appears to have resolved a longstanding tension between granting patents for chemical products and requiring that the scope of monopoly rights equipesates with the disclosure in the specification. In particular, it affirmed that a product can exist *qua* invention independent of the methods by which it is made, and also rejected the Biogen view of the balance to be struck between inventors and the public, and the commitment expressed by Lord Hoffmann in that case to promoting ‘research and healthy competition’. However, their Lordships’ decision is a limited one, applying only to isolated chemical products. Further, their support for distinguishing categories of claims leaves scope for adopting a different approach in respect of other, non-isolated products, including chemical products *per se*. In this article, I consider the possible approaches to such products suggested by the history of patent law. Those approaches include conceiving a product *qua* invention as something other than a tangible artefact, and defining the scope of a patent grant with respect to its impact on society at large, having regard to the purpose of the patent system in supporting the advancement of the practical arts. Both approaches have support in contemporary law, pre-1977 patent jurisprudence, and the intent of the European patent drafters. Provided their aim is to ensure proportionate protection for patentable *inventions*, any differential treatment which they produce ought not to amount to ‘discrimination’ within the meaning of the relevant principles of law, including Article 27.1 of the TRIPS Agreement.

**INTRODUCTION**

In February 2009, the House of Lords delivered its decision in Generics Ltd v Lundbeck A/S\(^1\) less than six weeks after hearing the case. It rejected an appeal from a decision of the Court of Appeal\(^2\) delivered by Lord Hoffmann and Jacob LJ that a patent for an isolated chemical product was not revocable under section 72(1)(c) of the Patents Act 1977. According to that section, a patent may be revoked if the specification ‘does not disclose the invention clearly enough and completely enough for it to be performed by a person skilled in the art’. This supports the section 14(3) requirement that ‘[t]he specification of an application

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1 [2009] UKHL 12. The three main speeches in Lundbeck were delivered by Lord Walker, Lord Mance and Lord Neuberger. Lord Scott agreed with Lord Neuberger, and delivered a short separate speech on novelty. Lord Phillips agreed with all the other Lords.

shall disclose the invention in a manner which is clear enough and complete enough for the invention to be performed by a person skilled in the art. By implication of *Asahi Kasei Kogyo KKs Application*, however, section 72(1)(c) also allows revocation of a patent for breach of the section 14(5)(c) requirement that the claims ‘shall … be supported by the description’ contained in the patent specification. Considering this requirement in *Biogen Inc v Medeva plc*, Lord Hoffmann (for the House of Lords) stated as follows:

Since *Genentech I/Polypeptide expression* the E.P.O. has several times reasserted the well established principles for what amounts to sufficiency of disclosure. In particular, in *EXXON/Fuel Oils* (T 409/91) [1994] O.J. E.P.O. 653, paragraph 3.3, the Technical Board of Appeal said of the provision in the European Patent Convention equivalent to section 14(5)(c) of the Act: ‘Furthermore, Article 84 EPC also requires that the claims must be supported by the description, in other words, it is the definition of the invention in the claims that needs support. In the Board’s judgment, this requirement reflects the general legal principle that the extent of the patent monopoly, as defined by the claims, should correspond to the technical contribution to the art in order for it to be supported, or justified.5

According to Lord Hoffmann, a patent in breach of this principle was revocable under section 72(1)(c) of the Act. 7 Informing that decision was his Lordship’s concern with promoting ‘research and healthy competition’:

> It is inevitable in a young science, like electricity in the early nineteenth century or flying at the turn of the last century or recombinant DNA technology in the 1970s, that dramatically new things will be done for the first time. The technical contribution made in such cases deserves to be recognised. But care is needed not to stifle further research and healthy competition by allowing the first person who has found a way of achieving an obviously desirable goal to monopolise every other way of doing so.8

The question for the Courts in the *Lundbeck* case was the implications of this reasoning for product patents.

The subject matter claimed in the Lundbeck patent was a (+) enantiomer, escitalopram, which had previously been produced in racemic form and the properties of which were previously known. In considering the suitability of escitalopram for a patent, the courts were answering the following question: what is the reward in UK law for first discovering a method of isolating a product?9 According to each of the *Lundbeck* Courts, consistent with the principle of *EXXON/Fuel Oils*, the reward in law for discovering such a method depends on the technical contribution to the art.10 Where the *Lundbeck* Courts disagreed, however, was in their understanding of that contribution. According to Kitchin J at first instance, the technical contribution of the Lundbeck patent correlated to the patentee’s inventive step, which was confined to the method of isolating the product. It followed that the reward to which Lundbeck was entitled was a monopoly in respect of the method alone, not extending to escitalopram as a product.11

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4 See s 14(2)(b) (requiring that a patent application contain a specification which describes the invention); ibid 536 (discussed in *Biogen Inc v Medeva Plc* [1997] RPC 1 (HL) 47).
6 ibid 49.
7 ibid 53 (see n 125, below).
8 ibid 52.
9 Novelty and inventive step were not challenged before the House of Lords and were consequently assumed.
10 See [2007] EWHC 1040 (Pat) [260]-[267]; [2008] EWCA Civ 311, [35]-[37] (Lord Hoffmann), [45]-[46] (Lord Mance), [59] (Jacob LJ); [2009] UKHL 12, [29]-[34] (Lord Walker), [83] (Lord Neuberger).
11 [2007] EWHC 1040, [264]-[266].

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The Court of Appeal disagreed with this. For both Lord Hoffmann and Jacob LJ, delivering the judgments of the Court, escitalopram was a patentable invention within the meaning of section 1(1), and therefore a technical contribution to the art. To the extent that Biogen contradicted this, it was held to be distinguishable on its facts as involving a different type of claim: a claim to a class of chemical products produced by a recombinant method. In the case of such a claim, ‘the teaching of the patent’ was the products themselves when produced by the method described in the claim. By contrast, in the case of a claim for a single product, the teaching of the patent was the product as such independent of the method by which it was made. This had important implications for disclosure and support under sections 14(3) and 14(5)(c) of the Act. In the case of a claim for products-by-process, the specification needed to disclose every method of producing the products, as part of the invention protected by the patent. By contrast, in the case of a product per se claim, the specification needs only to disclose the product itself and one enabling method of producing the same. The reason, it seems, was the nature of a product qua invention, as not including its method (ie, its history) of production.

On its face, however, this is problematic, for on the court’s understanding of the nature of a product, a patent in respect of a product as such will cover every way of producing the product. According to the principles of Biogen above, such ways ought therefore to be disclosed in the specification, or the monopoly will exceed the consideration for its grant. The difficulty arises, however, that one can never disclose every way of producing a product, bringing us to the heart of the Lundbeck case, and the reasoning of Lord Hoffmann and Jacob LJ: given the statute’s support for patents for products, and assuming the conception of products above, the courts must accept as the relevant contribution to the art the provision of the patentable product itself, and also accept as sufficient support any single method of producing the product. To find otherwise would deny the possibility of product patents by treating every product as a product-by-process in contradiction (it was said) of section 60 of the Act. Thus, if the result of allowing product claims was to permit disproportionate monopoly patents – ie, patents that would protect more than they disclosed – then that was simply a consequence of the Patents Act, and was thus not a basis for legal complaint.

Parliament has chosen to allow product claims and the jurisprudence of the EPO, which we have always regarded as carrying great weight, shows that such claims can be made in the latter case as well. It is too late to have regrets about the breadth of the monopoly which such claims confer.

The fact that compound claims may give a patentee ‘more than he deserves’ has not in practice proved to be much of a problem. Their certainty and pragmatic value has proved itself over the years. What matters for present purposes is that the concept ‘that the patentee should not have more than he deserves’ does not form part of the

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12 [2008] EWCA Civ 311, [36], [41] (Lord Hoffmann, emphasising that this would be so even if the inventive step were confined to the process of making the product); [59] (Jacob LJ).
13 ibid [34] (Lord Hoffmann, describing the House of Lords in Biogen as having ‘as a matter of construction … interpreted the claim as being to a class of products which satisfied the specified conditions, one of which was that the molecule had been made by recombinant technology.’)
14 The phrase is from Biogen v Medeva, as in discussion of the question ‘whether the claims cover other ways in which they might be delivered: ways which owe nothing to the teaching of the patent or any principle which it disclosed’ ([1997] RPC 1 (HL) 50).
15 See [2008] EWCA Civ 311 [34]-[35] (Lord Hoffmann).
16 ibid [36] (Lord Hoffmann).
17 See Kirin-Amgen Inc v Hoechst Marion Roussel Ltd [2005] 1 All ER 667; [2004] UKHL 46, [88] (Lord Hoffmann, stating that ‘the history of how a product was made is not an attribute which it carries around … It [is] still the same product, even if made in a different way’).
18 Section 60 of the Act defines infringement with respect to process and product patents, implying statutory support for both kinds of patents.
19 [2008] EWCA Civ 311, [42], [46] (Lord Hoffmann).

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statutory test for sufficiency.\textsuperscript{20}

In the House of Lords, Lords Mance and Neuberger agreed. In Lord Mance’s view, given the statute’s support of product patents, it would be surprising if their scope were restricted by principles not having any statutory (or Convention) trace.\textsuperscript{21} Lord Walker, however, took a different approach.\textsuperscript{22} Agreeing that Biogen was distinguishable on its facts, and that escitalopram was capable of supporting a patent, he did not go so far as the Court of Appeal by suggesting that any new chemical product would be regarded by virtue of its nature as such, and its patentability under section 1(1) of the Act, as representing a technical contribution to the art. Rather, he suggested that the technical contribution made by a patent would depend on the strength of its inventive step.\textsuperscript{23} Thus, the point with respect to the Lundbeck patent was not that the claim was for a patentable product, but that escitalopram was ‘something of lasting importance’.\textsuperscript{24}

Elsewhere I have questioned the Lundbeck decision on the basis of the claim at issue in the case, and the courts’ conception of escitalopram \textit{qua} invention.\textsuperscript{25} Being a claim for an isolated chemical product, and not for a chemical product as such,\textsuperscript{26} the claim was analogous to the Biogen v Medeva claim in its importation of a process element. As a result, the Court of Appeal and the House of Lords ought not to have distinguished Biogen v Medeva, and rejected the finding of Kitchin J with respect to the requirement for sufficient support. Implicit is a further criticism of the courts for having inconsistently conceived escitalopram \textit{qua} invention, namely, as an \textit{isolated} product for novelty purposes, and as a \textit{product as such} for sufficiency purposes.

In the current article I expand on this by placing the Generics v Lundbeck decisions in their historical legal context. The conclusions I reach can be stated as follows. First, the case appears to resolve a longstanding tension between the granting of patents for chemical products and the requirement that the scope of monopoly rights not exceed the disclosure in the specification (in favour of patents for chemical products). However, it proceeds from a (scientifically, philosophically and legally) questionable conception of the ‘patentable invention’ as comprising in the case of a newly isolated chemical product, the product as a tangible artefact independent of the act by which it was made. Further, even if that

\textsuperscript{20} See ibid [54]-[57] (Jacob LJ).
\textsuperscript{21} See ibid [45], [52], [53]. Lord Mance was also influenced by the ambivalence of policy arguments on the issue, the absence of relevant UK judicial authority other than Biogen v Medeva, and the existence of clear EPO jurisprudence supporting product per se patents (see ibid [45], [54]; see also [2008] EWCA Civ 311 [46] (Lord Hoffmann)). In Lord Neuberger’s view (ibid [90], [95]), if production of the product were a known \textit{desideratum} the product would be new and non-obvious in law, and appropriate on that ground for product per se protection.
\textsuperscript{22} Cf [2009] UKHL 12, [1] (Lord Phillips, describing the other Lords as reaching ‘the same conclusion for the same reasons’); [102] (Lord Neuberger, describing his reasons as ‘effectively the same as those expressed by Lord Walker and Lord Mance’).
\textsuperscript{23} See ibid [30] (Lord Walker, distinguishing inventive concept from the technical contribution to the art, and defining the latter as ‘concerned with the evaluation of its inventive concept – how far forward has it carried the state of the art?’ and the former as ‘concerned with the identification of the core (or kernel, or essence) of the invention’). The same view might be said to be implicit in Kitchin J’s reference to two concepts of ‘inventive step’ – one for section 3 purposes, and one for section 14 purposes. The equation of ‘inventive step’ with an invention’s ‘essence’ is supported by the decision of Lord Hoffmann in Kirin-Amgen (n 17) [22]).
\textsuperscript{24} Ibid [33]-[34] (distinguishing Biogen v Medeva as involving a subject matter with a brilliant inventive concept that was nonetheless incapable of supporting a patent on the ground that it failed to make a significant permanent contribution to the art in the sense of contributing something of lasting importance).
\textsuperscript{25} See Justine Pila, ‘Chemical Product Patents and Biogen Insufficiency Before the House of Lords’ (2009) 125 LQR 573–578.
\textsuperscript{26} This distinction was critical to the Courts’ finding that escitalopram was not anticipated by its prior availability in racemic form: ibid (citing [2007] EWHC 1040, [62]-[64]; [2008] EWCA Civ 311, [9]-[13]; [2009] UKHL 12, [6]).
The requirement for a written specification had been introduced by the Law Officers in the early 18th century, but was only given a common law footing in *Liardet v Johnson* (1778) 1 CPC 35 (NP). See Justine Pila, ‘Inherent Patentability in Anglo-Australian Law: A History’ (2003) 14 AIPJ 109, 113 and the references therein.

33 Pila, ibid 113.

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law.  

The first detailed consideration of the nature of the post-specification invention is contained in the 1795 case of *Boulton v Bull.*35 That case is also the earliest authority on the inherent patentability of chemical products. In separate judgments, Heath and Buller JJ described ‘substances (such as medicines) formed by chemical and other processes’ and ‘chemical discoveries’ respectively as inventions capable of supporting a patent.36 Lord Chief Justice Eyre agreed with that view, and in a decision of longstanding judicial importance, suggested the following three principles of present relevance.37 First, for a patent to be valid in UK law, the invention for which the patent was granted needed to be fairly disclosed in the specification. Second, the phrase ‘manner of new manufacture’ in the patent legislation had a meaning more expansive than its literal terms, and included artefactual chemical products. And third, in the case of a method for producing such a product, the patent would protect the product itself, independent of the method by which it was made.

Twenty-four years later, these principles were seemingly affirmed in *R v Wheeler.*38 In that case, Abbott CJ upheld his decision to repeal a patent on the ground that the invention claimed in the patent was not the same as that disclosed in its specification.39 In his Lordship’s judgment:

> The language in which the supposed invention is described in a patent of this nature is the language of the patentee himself. He represents to the Crown, that he has invented this or that thing, and that he is the first and sole inventor thereof, &c. and the Crown yielding to his representation, and willing to give encouragement to all arts and inventions that may be for the public good, grants to the patentee the sole liberty and privilege of using his said invention, for a certain term, under the conditions before noticed. It is obvious, therefore, that if the patentee has not invented the matter or thing of which he represents himself to be the inventor, the consideration of the Royal grant fails, and the grant consequently becomes void. And this will not be the less true, if it should happen that the patentee has invented some other matter or thing, of which, upon a due representation thereof, he might have been entitled to a grant of the exclusive use.

As Abbott CJ subsequently said in *Brunton v Hawkes,*41 ‘[i]t is quite clear that a patent granted by the Crown cannot extend beyond the consideration of the patent’.42 Further, in order for a claim43 to be valid in law, it needed to be properly supported by the specification,44 and not exceed ‘that, which being both matter of actual discovery and of useful discovery, is the only proper subject for the protection of a patent’.45 In relation to patentable discoveries

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34 ibid.
35 (1795) 2 H BL 463; 126 ER 651 (CP).
36 126 ER 651, 660-661 (Heath J); 662-663 (Buller J).
37 ibid 665-666.
38 (1819) 2 B & Ald 345; 106 ER 392 (KB).
39 106 ER 392, 393.
40 ibid 394-395 (Abbott CJ).
41 (1821) 4 B & Ald 541; 106 ER 1034 (KB).
42 106 ER 1034-1038 (Abbott CJ).
43 Note that before the introduction of the statutory requirement for patent claims by the Patents, Designs, and Trade Marks Act 1883 (1883 Act), s 5(2), the ‘claim’ of a patent was discerned from its title and/or its specification in general.
44 See Pila (n 32) 129-131.
45 *Hill v Thomson* (1815-1817) Holt 636; 171 ER 367 (CCP), quoted approvingly in *Brunton v Hawkes* (1821) 106 ER 1034, 1039 (Best J).
themselves, his Lordship agreed with Boulton v Bull that

…the word ‘manufactures’ has been generally understood to denote either a thing made, which is useful for its own sake, and vendible as such, as a medicine, a stove, a telescope, and many others...  

In their emphasis on the role of the specification in mediating the bargain between inventors and the public, the judgments of Abbott and Lord Eyre CJJ set the tone for the 19th century development of the patent system. That development reflects a tension between expansive conceptions of inherent patentability, driven largely by liberal patent granting practice, 47 and the common law requirement for proportionate patents, defined with reference to the subject matter qua invention.

This tension came to a head in the second half of the 19th century, when concern over the ‘multiplicity of monopolies’ and their ‘[obstruction of] the progress and improvement of arts and manufactures’ 48 prompted the first extensive review of the UK system. 49 That concern was particularly acute in the chemical field, due to alleged abuses of the Patent Office by foreign chemical manufacturers. As recounted in the parliamentary debates of the day, German manufacturers were in the practice of obtaining UK patents for chemical products, and refusing either to work the products or to licence their patents to local firms. 50 In 1883 the Government responded by introducing a compulsory licensing system to prevent the unreasonable refusal of patent licences, and balance the interests in rewarding first inventors with protection of the public against obstructive claims. 51

1883 to 1919: Doubts regarding product patents amid concerns regarding obstructive claims

Soon after the introduction of the 1883 Act, the inherent patentability of products was considered by the courts. Five cases decided between 1889 and 1910 were particularly important; three for their implicit support of mechanical product patents, one for its implicit support of chemical product patents, and one for its explicit opposition to both (mechanical and chemical product) patents.

The first three cases were Thomson v American Braided Wire Co, 52 Vorwerk v Evans, 53 and Adhesive Dry Mounting Co Ltd v Trapp & Co. 54 In Thomson v American

46 106 ER 392, 394-395.
47 See Pila (n 32) 129-131. Evidence of the issuing of patents for mechanical and chemical patents is available in the patent records of the day; for a discussion see Parl Debs (series 4), vol 350 cols 470-471 (12 Feb 1891).
48 Report of the Commissioners appointed to inquire into the Working of the Law relating to Letters Patent for Inventions (Cmd 5974, 1865) v. See also Fritz Machlup and Edith Penrose, ‘The Patent Controversy in the Nineteenth Century’ (1950) 10 JI of Economic History 1-29, especially 1-9 (describing the controversy that existed in 19th century Britain regarding patents of invention, which was ‘at its height between 1850 and 1875’, during which period three select committees of Parliament and royal commissions investigated the operation of the patent system, in 1851-1852, 1862-1865, and 1869-1872).
50 See Parl Debs (series 4) vol 278 cols 349-394 (16 April 1883).
51 ibid (‘In this and similar matters the patentee was only the first discoverer. Others were working on the same lines, and it was only a question of time which would arrive first a satisfactory result. It was all very well to reward the first inventor; but it was not necessary nor just to give to the first inventor an absolute right of monopoly, which might be used for purposes of extortion, or to the injury of the country which granted these reward for invention’). For the provisions themselves see 1883 Act s 22.
52 (1889) 6 RPC 518 (HL).
53 (1890) 7 RPC 265 (CA).
54 (1910) 27 RPC 341 (Ch).

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Braided Wire Co, the House of Lords held a patent for pillows and cushions to be lacking in novelty but otherwise patentable. In Vorwerk v Evans, a majority of the Court of Appeal interpreted a claim to ‘the waistband of the formation substantially as set forth and indicated hereinbefore’ as being for the waistband-by-process rather than the waistband itself.\(^{55}\) In Adhesive Dry Mounting Co Ltd v Trapp & Co, Parker J construed a claim for ‘carrying into practice the process hereinbefore described, a pellicle which is adhesive when hot and consists of a thin sheet of paper or other carrier immersed in a solution of gum lac or other gum-resin’ to be for the pellicle rather than the pellicle-by-process, and to be invalid as such for anticipation.\(^{56}\) In each case, the inherent patentability of mechanical products was assumed.

To similar effect in the context of chemical products was the *dictum* of Lord Davey in Acetylene Illuminating Co v United Alkali Co Ltd,\(^{57}\) as follows:

> I need scarcely say that if the Patentee had discovered a new material of the character which he mentions [a compound of calcium and carbon, namely, a calcium carbide], a material having the very valuable commercial properties which he ascribes to it, that would have been a good subject-matter for a Patent, and there could have been no question, supposing he had done so, that his Patent was a good one. He would be bound, of course, to state the means by which he produced that material; but the novelty of the means or the process by which the material was produced would have been immaterial, because the merit and the novelty of the invention would consist in the substance produced itself.\(^{58}\)

This leaves the fifth and opposing case of Kopp v Rosenwald Bros.\(^{59}\) According to Buckley LJ in that case, the phrase ‘manner of new manufacture’ imported a process element analogous (one might say) to ‘recombinant product’\(^{60}\) – or in the argument I have put, ‘isolated product’ – with the result that what was described by the House of Lords in Thomson v American Braided Wire Co as a product claim was in reality a product-by-process claim, or perhaps even (it was suggested) a selection claim. In addition to his Lordship’s judgment itself,\(^{61}\) this can be seen in his exchange with Terrell KC of Counsel:

> [Terrell KC:] It has never been held that an article is not per se subject matter for a patent. An article which is new but produced in a manner wholly old may be good subject matter. Assume for the purpose of this branch of the argument that the whole of the machine was old. The Statute of Monopolies s6 may cover a method of manufacture and a new article of manufacture. [Buckley LJ: Does it not mean a process and not the article produced. The sole working of a manufactured article – what does it mean?] Working means making. Judges have not said a man cannot have a patent for a new product, though they have not said that he can. (Adamant Stone Paving 14 RPC 11). [Buckley LJ: May not this authority be summed up thus: if the patentee says, ‘select one of a known class of machines, use it in the manner indicated in my specification and insisted on as being the essence of my invention, and you get a new article,’ that may be subject matter?] I rely on Thomson v American Braided Wire Company. [Buckley LJ: to get within that case you must say ‘I claim whalebone braided with a selvage on either side, which in my specification I show how to make’.] The particular machine described is produced for a particular purpose. [Buckley: If you claim a new article can you prevent the article being produced by any process?] I need not say that we claim an article per se. The invention is the application of an old method to the production of a new article – the

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\(^{55}\) See (1890) 7 RPC 265 (CA) 272 (Cotton LJ), 274 (Bowen LJ). Cf 274 (Fry LJ).

\(^{56}\) (1910) 27 RPC 341 (Ch) 353.

\(^{57}\) (1904) 22 RPC 145 (HL).

\(^{58}\) Ibid 153.

\(^{59}\) (1900) 19 RPC 205 (Ch).

\(^{60}\) See n 13, above.

\(^{61}\) See (1900) 19 RPC 205 (Ch) 211-212.
application of an old process to a new purpose. In fact it is the application of old steps in a new order to produce something new, and there is sufficient subject matter to support the patent. The patentee says, ‘select a particular type of the well-known braiding machine, viz one with 4 heads and 13 spindles and use it in the way indicated in my specification. The result is you will produce an article which is new’. This is patentable.62

The strength of Buckley LJ’s implication in this passage – that there was no protection for products per se, but only for methods of manufacturing products – was such that Mr Terrell was unwilling to contest it. On the other hand, his Lordship’s reasoning relied on a literal construction of ‘manner of new manufacture’, which was rejected by two of the Judges in Boulton v Bull,63 and inconsistent with post-1852 statutory definitions of the invention. According to those definitions, an invention was any subject matter entitled to a patent under the Statute of Monopolies, including (after 1883) an alleged invention. This explains the most commonly cited judicial definition of the invention, by the High Court of Australia in 1959, as depending not on the literal meaning of the phrase, but on ‘the principles which have been developed for the application of section 6 of the Statute of Monopolies’.64 The question remained, what were those principles in 1900?

As has been seen, central among them was that the scope of rights conferred by a patent should correspond to the benefit secured by the same. In the early decades of the 1883 Act, following the government’s review of the patent system, this principle encouraged scrutiny by the courts of patent scope, and by extension patent drafting practice.65 An example is Thomson v American Braided Wire Co itself:

The Appellants maintain that the Specification of 1885 is framed in terms so comprehensive as to include in the invention all hustles and dress-improvers composed of one or more sections of tubular braided wire. Had the claim of the inventor been of that extent, I should have been of opinion that the patent was void.66 Similarly in The Badische Anilin und Soda Fabrik v Levinstein,67 where a patent for naphthylamine was held to be invalid by reason of the patentee’s failure to distinguish the

62 ibid 209. Cf Committee of Experts, ‘Observations of the United Kingdom Delegation; Industrial Character’ EXP/Brev (56) 3 (3 May 1956) 1-2 (describing ‘the definition ‘manner of manufacture’ [as including] broadly as patentable inventions, not only articles, substances, machinery and manufacturing plant but also manufacturing processes and applications of new principles to manufacture. ‘Manufacture’ connotes broadly the making of something which is vendible and includes not only a product but also any process that improves, restores or preserves a vendible product’).

63 Lord Eyre CJ (n 37) and Rooke J; cf Heath and Buller JJ.


65 Before the introduction of the 1883 Act, a patent was revocable by writ of scire facias for failure to satisfy the common law requirements of patentability (see Letters Patent for Inventions Act 1835 s 3; Patent Law Amendment Act 1852 s XV). In 1883 the scire facias action was abolished and replaced with a statutory revocation procedure, which could be instituted on any of the grounds of the original action (see 1883 Act s 26). The grounds for revoking a patent were first given explicit legislative form in sections 25 and 26 of the Patents and Designs Act 1907 (1907 Act), and were expanded by the Patents and Designs Act 1932 to include failure of the specification ‘sufficiently and fairly [to] describe and ascertain the nature of the invention and the manner in which it is to be performed’ (s 3(2)(h)), and failure of the specification ‘sufficiently and clearly [to] ascertain the scope of the monopoly claimed’ (s 3(2)(i)). An action for opposing the grant of a patent was also first introduced in 1883, andextended in section 11(1)(c) of the 1907 Act to include the failure sufficiently or fairly to describe and ascertain the nature of the invention or the manner in which it is to be performed, consistent with (the subsequently enacted) s 3(2)(h) of the 1932 Act.

66 (1889) 6 RPC 518 (HL) 525.

67 (1885) 2 RPC 73 (CA) 89, 103.
product’s known isomeric forms. According to the Court of Appeal, the specification operated as ‘a drag-net, sweeping into its wide ambit all the isomers of the sulpha-acid of oxy-azo- naphthylamine, without regard to whether they were good, bad, or indifferent,’ and leaving for subsequent investigation and experiment the resolution of those issues and choice between the specified methods of production.68 And finally, in 1915, the House of Lords in Natural Colour Kinematograph Co Ltd v Bioscemes Ltd69 commented as follows on patent drafting practices:

Some of those who draft specifications and claims are apt to treat this industry as a trial of skill, in which the object is to make the claim very wide upon one interpretation of it, in order to prevent as many people as possible from competing with the patentee’s business, and then to rely upon carefully prepared sentences in the specification which, it is hoped, will be just enough to limit the claim within safe dimensions if it is attacked in Court.70

It seems reasonable to assume that decisions such as these encouraged a suspicion of chemical product patents. One person harbouring such suspicions was Mr W Temple Franks, the Comptroller-General of Patents, who believed that a claim for a patent for a chemical product was ‘in the majority of instances’ an obstructive one:

Another point to be noticed [concerns the] use of what are called ‘product claims’. These claims are claims to any new product per se irrespective of the process by which it is made and are in the form eg ‘as a new product the dyestuffs made as above or by any other process’. The consequence of such claims especially in chemical manufacture is that the inventor of a process producing a new chemical product is enabled to attack as infringements products produced not only by the process discovered by him but by any other method. These are, in my opinion, in the majority of instances, obstructive and injurious claims, and they very largely aid the establishment of a monopoly in the case of chemical manufacture as they prevent research and invention on analogous lines by other persons.71

Thus, in the early decades of the 1883 Act there existed a view of chemical product patents as conferring disproportionate monopoly rights having regard to the benefit they secured for the public. That this fostered uncertainty regarding the validity of such patents is evidenced by the contradictory accounts of that validity by government,72 academics73 and the

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68 ibid 103, 116.
69 (1915) 32 RPC 256 (HL).
70 ibid 266 (Earl Loreburn). See also Lord Parmoor 266 (‘[T]he patentee has not made the invention which he describes and claims in the specification, and an inventor who seeks to extend his invention beyond the ambit of the discovery which he has made, must take the consequences.’)
72 Cf, eg, Report of the Committee to Examine the Patent System and Patent Law, ‘The British Patent System’ (Banks Report) (Cmnd 4407, 1970) [396] (‘prior to 1919, British patent law permitted the patenting of chemical substances as such’); Report of the Departmental Committee on the Patents and Designs Acts and Practice of the Patent Office (Sargant Report) (Cmd 3829 1930-1931) [176] (‘Prior to the Act of 1919, it was customary for British specifications dealing with the manufacture of new chemical substances to include claims for the substances themselves independently of the actual process of manufacture. And, though the weight of authority may have been against the validity of such claims, there was not any reported decision to that effect and the subject was not free from doubts, which it was very desirable to remove, particularly in view of the numerous claims of this class made in the British specifications of German inventions in relation to dye-stuffs.’)
73 Cf, eg, Ralph D Satchell, ‘Chemical Product Patent Practice in the United Kingdom’ in (1970) 1 IIC 179, 179 (‘Before the year 1919, an applicant for a patent in the United Kingdom was allowed to include in his specification claims to a … new product itself [which] claim was not restricted to the product only when obtained by the applicant’s process’); Christopher Robinson, ‘Patent Protection for Chemical Products in Canada, Great Britain and the United States’ (1972) 2 IIC 139 140 (describing the position in pre-1919 England as ‘by no means as clear’ as the position in Canada and the US, where patents were available for compositions of matter, with supporting references to the cases referred to by

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that the time of its enactment the provision was regarded favourably by the industry').

preparing a new chemical substance from claiming the substance when prepared in other ways; and

sponsors and accepted by the chemical industry, was to prevent an inventor who had found

July 1919) and stating 'It will thus be seen that the principal object of the Clause, as proposed by its

79 See Patents and Designs Act 1919 s 11(1).

Dissatisfaction with the 1883 compulsory licensing scheme as a means of resolving the impact of chemical product patents was aired in the House of Commons in 1898, but action neither suggested nor taken.75 In the view of the President of the Board of Trade, that which industry perceived as a weakness of the system was on the contrary one of its central strengths: its disregard of the position under foreign law, implying non-discrimination against foreign inventors.76 Then in 1916, the UK Government’s Parker Committee – which included as a member Mr Temple Franks himself – recommended a general prohibition against chemical product claims on two specific reported grounds: the desirability of harmonising English law with the law of other (European) states, and the desirability of reducing the hold of German firms on the British chemical industry.

The reason given in the Parker Report for these recommendations was that they would bring British law into agreement with that in most other countries but, in addition to this reason, there seems also to have been a strong feeling that prior to 1914 the German chemical industry had dominated the British industry by astute use of the patent system, particularly by means of claims to chemical products, which were not then allowed in German patents.77

The Committee’s recommendation was accepted, and section 38A(1) of the 1907 Act introduced.78 According to Hansard, the ‘principal object’ of that section was ‘to prevent an inventor who had found a way of preparing a new chemical substance from claiming the substance when prepared in other ways’.79 To that end it prohibited claims for chemical substances ‘except when prepared or produced by the special methods or processes of

Lord Hoffmann in Lundbeck [2008] EWCA Civ 311, [43]; namely, Acetylene Illuminating Co v United Alkali Co Ltd (1904) 22 RPC 145 (HL) and British-Thomson Houston v Charlesworth (1925) 42 RPC 180 (HL)).

74 Cf, eg, Lundbeck [2008] EWCA Civ 311, [43] (‘Product claims have had a chequered history. Under the Statute of Monopolies 1623 a patent could be granted only for a ‘manner of new manufacture.’ By the end of the 19th century it was a matter of some controversy whether a new material could be claimed: compare Lord Davey in [Acetylene] with Lord Shaw in [British Thomson-Houston]. It would appear that some chemical product claims were granted, because in 1916 the Comptroller-General of Patents, Mr W. Temple Franks, who was a member of a committee chaired by Lord Parker of Waddington appointed to advise on amendments to the Patents and Designs Act 1907, commented unfavourably upon them…”); [2009] UKHL 12, [71] (Lord Neuberger, describing the suggestion that a patent cannot be granted for a specified molecule or specified molecules, or a substance comprising specified molecules, as ‘inconsistent with the statutory history set out [2008] RPC 19, paras 43 to 46 by Lord Hoffmann in the Court of Appeal in this case’).

75 See Parl Debs (series 4) vol 63 cols 450-569 (29 July 1898). In other contexts members of the House of Commons expressed their support for chemical product patents, or least their assumption that such patents were valid. See, eg, Parl Debs (series 4) vol 180 cols 645-676 (9 August 1907) (objecting to a proposal to require that patented products be marked with the word ‘patent’ as infeasible in the case of chemical products).

76 See Parl Debs (series 4) vol 63 cols 450-569 (29 July 1898).

77 Banks Report (Cmd 4407, 1970) [396].

78 See Patents and Designs Act 1919 s 11(1).

79 Sargant Report (Cmd 3829, 1930-1931) [178] (referring to Parl Debs (series 5) vol 118 cols 1860 (28 July 1919) and stating ‘It will thus be seen that the principal object of the Clause, as proposed by its sponsors and accepted by the chemical industry, was to prevent an inventor who had found a way of preparing a new chemical substance from claiming the substance when prepared in other ways; and that the time of its enactment the provision was regarded favourably by the industry’).

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manufacture described and claimed or by their obvious chemical equivalents’. 80 In addition, the section created an express evidentiary presumption that had the effect of expanding the patentee’s rights to the extent permitted by the prohibition in alignment of the English and German positions. 81

There remained the secondary patentability requirements themselves, of novelty, inventiveness and utility. According to Lord Shaw in British Thomson-Houston v Charlesworth, 82 ‘[a] thing discovered in ordinary trade or adventure, with no novelty or invention of means employed, is not patentable any more than would the discovery by a sailor of an island cast up by the sea.’ 83 In Sharp & Dohme Inc v Boots Pure Drug Company Ltd, 84 the Court of Appeal agreed, finding that chemical products could only support a patent if produced by a novel and inventive method. 85 The Sargant Committee of 1931 disagreed, however, criticising the principle in Sharp & Dohme that chemical products needed to be produced by a patentable method. 86 In the Committee’s opinion, it was the product as produced by the process that was patentable, and not simply the process of production itself. 87 An amendment to section 38A(1) was recommended 88 and introduced by the Legislature the following year. 89 That the amendment achieved its intended effect is apparent from In re May & Baker Ltd, 90 where Jenkins J affirmed the patentability of any ‘invention consisting of the production of new substances by known methods from known materials’, albeit with a restrictive understanding of ‘new’ (viz, ‘truly new, as opposed to being merely additional members of a known series (such as the homologues)’) and a requirement that the product’s useful qualities be attributable to the inventor’s discovery itself 91.

In In re May & Baker Ltd, the claim was for a class of chemical compounds. According to Jenkins J, the fact that only some of the compounds covered by the claim had the chemo-therapeutic value described in the patent meant that the claim was unduly broad in scope.

The specification claims the whole range of products falling within its terms although only some of them are known to be useful for the purpose in view… This, I think, amounts to such a failure of consideration, or in other words, such a disparity between the inventive step and the width of the monopoly claimed, as to afford good ground for objection under Sec. 6 of the Statute [of Monopolies]. See Mullard Radio Valve Coy. Ld. V. Philco. Corp. (52 R.P.C. 261, 278; 53 R.P.C. 323, 347, 348). 92

80 See Parl Debs (series 5) vol 37 cols 602-671 (4 December 1919). See also Parl Debs (series 5) vol 118 cols 1841-1868 (28 July 1919) (Sir W Pearce, describing the proposed provision as ‘a great improvement, speaking for the chemical industry. The Clause, as now drafted, depends upon process rather than the actual substance itself, and in that, I think, the Government have taken the right view’).
81 ibid.
82 (1925) 42 RPC 180 (HL).
83 ibid 207.
84 (1928) 45 RPC 153 (CA).
85 See also M’s Application (1922) 39 RPC 261 (S-G), W’s Application (1922) 39 RPC 263 (S-G). Cf E M’s Application (1924) 41 RPC 590 (S-G).
86 Sargant Report (Cmd 3829, 1930-1931) [179]-[184].
87 ibid [185] (accepting the submissions described at [179]-[180], namely, that the limitation on patentability imposed in M’s Application with reference to the word ‘special’ was not contemplated by the drafters of section 38A, that the ambiguous wording of the section has involved considerable unnecessary expense to applicants for patents, and that the presence of the word ‘special’ has led in some cases to the refusal of patents for inventions for the production of new substances, when such substances were produced by processes which might be said to contain no features of substantial novelty in themselves.)
88 ibid [184]; Memorandum (Patents and Designs Bill) 1931-32 (Cmd 4067) 35-56.
89 1932 Act s 8.
90 (1948) 45 RPC 255 (Ch).
91 ibid 281. Jenkins J’s decision was appealed to the Court of Appeal and again to the House of Lords, but on the issue of leave to amend alone.
92 (1948) 45 RPC 255 (Ch) 288.
Of particular note is the suggestion here that the inventive step disclosed in a patent needed to correspond to the scope of the monopoly claimed. In the case cited for that proposition – *Mullard Radio Valve Co Ltd v Philco Radio & Television Corp* – the House of Lords invalidated a claim on grounds expressed by Lord Alness as follows:

> [T]he invention and the claim do not equiprate, and … the monopoly claimed by the appellants does not conform with the consideration set out in the specification. The fundamental rule of patent law … has always been that the monopoly claimed must not go beyond the consideration. In my opinion, [the claim] sins against this cardinal rule. The appellants have, I think, claimed more than is necessary for the protection of their patent.

Explaining this ‘fundamental rule’ to the European Committee of Experts on Patents in 1953, the UK’s own experts cited *Esau’s Application*. In that case, a claim to ‘an apparatus for influencing substances by means of high frequency electric energy’ was rejected by the Law Officer on the ground that the patentee’s disclosure in the specification did not correspond to the monopoly claimed in the patent. In his judgment, the Officer admonished patentees to realise

> …that it is not the practice of the Patent Office to allow broad and indeterminate claims of a speculative character, and that, if they put such claims into their complete specifications, they must expect to find them disallowed unless they are able to give a sufficiently detailed and full description to support them.

Similarly in the case of *Shell Development Co’s Application*, Wynn-Parry J affirmed ‘the practice of the Patent Office not to allow broad and indeterminate claims of a speculative character’ as one ‘based on a true construction of the Act as interpreted by the authorities’, and upheld the decision of the Superintending Examiner to refuse a patent for new solvents of use in the separation of organic mixtures on the ground that the claim was excessively broadly.

These cases are important, for they recognised a general discretion of patent officers and courts to refuse and invalidate a patent claim that failed to equiprate with the specification.

1949 to 1977: The repeal of the prohibition against chemical product claims, and judicial attempt to reconcile the inherent patentability of chemical products with the requirement for proportionate patents (ie, equiprating claims)

In 1947, the government-appointed Swan Committee recommended that section 38A(1) be abolished, and that claims for new chemical substances be allowed so as ‘to give the patentee an exclusive right to manufacture that substance’ even against discoverers of new methods of

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93 [1936] 2 All ER 920 (HL).
94 ibid 934.
95 See ‘Reply to the Questionnaire drawn up by the Bureau of the Committee of Experts of the Council of Europe from the point of view of legislation in the United Kingdom’, EXP/Brev (53) 7 (17 March 1953) 11. See also ‘Criteria of Novelty and Patentability’, CM/WP IV (51) 9 (undated) 48 (citing *In re May & Baker’s Patent*, *Shell Development’s Application* and *Esau’s Application* in support of the proposition that ‘an applicant … must not make speculative claims, covering a wide and unexplored field, where there is no disclosure coterminous with the monopoly indicated in the claims’, and describing as the reason for the invalidity of such claims that ‘the patentee has not given the proper consideration in return for his monopoly.’)
96 (1932) 44 RPC 85 (S-G); ibid.
97 (1932) 44 RPC 85, S-G, 86.
98 ibid 87.
99 (1947) 44 RPC 151 (PAT).
100 ibid 154.
making the same.\textsuperscript{101} Two reasons were given for that recommendation. The first was the definitional difficulties created by the provision’s language, including particularly the phrases ‘obvious chemical equivalents’ and ‘chemical processes’.\textsuperscript{102} And the second was the permissibility of \textit{per se} claims for non-chemical products, including ‘new alloys, even though it may be open to argument in some cases that the formation of intermetallic compounds between constituents of the alloy should be regarded as a chemical process’.\textsuperscript{103} Thus, definitional and discrimination-related grounds led the Committee to recommend that the exception be abandoned. The Legislature accepted that recommendation, and repealed section 38A(1) of the 1907 Act. In so doing it supported the inherent patentability of chemical products, independent of the methods by which they were made.\textsuperscript{104} It also suggested that the compulsory licensing system\textsuperscript{105} would be sufficient to off-set any adverse social impact resulting from that change.\textsuperscript{106}

In addition to repealing section 38A(1), the Legislature introduced a fair basis requirement. According to section 4(4) of the 1949 Act, ‘[t]he claim or claims of a complete specification must relate to a single invention, must be clear and succinct, and must be fairly based on the matter disclosed in the specification’. Section 32(1)(i) supported this by affirming the courts’ power to revoke a patent on the ground ‘that the scope of any claim of the complete specification is not sufficiently and clearly defined or that any claim of the complete specification is not fairly based on the matter disclosed in the specification’. Describing the effect of these provisions to the European Committee of Experts on Patents, the UK experts stated as follows:

The effect of the requirement [of fair basis] is not to limit an applicant’s invention strictly to what he has described but to something which is ‘fairly based’ on his description. Thus, for example, if an applicant described in his specification the use of ethyl alcohol, objection might be raised to a claim for any substance containing a hydroxyl group, but a claim for the use of a lower aliphatic alcohol would probably be accepted without demur. … Many decisions of the courts and tribunals have been made relating to claims and these constitute a body of practice interpretive of the above statutory requirements, and which may be summarised as follows:- The function of claims is to define with precision and without ambiguity the scope of the monopoly. They form part of the specification as a whole but should be taken at their face value unless the description directs otherwise. … Summing up, it may be said of claims in a patent specification, that, if they are too broad the patent would be invalid, but that they must be broad enough to cover all that the patentee is entitled to monopolise, and to cover this in such a way that the public may, by reading the specification, know where it stands. Of the description in a patent specification it

\textsuperscript{101} Final Report of the Swan Committee, (Cmd 7206, 1947) [96].
\textsuperscript{102} ibid [94].
\textsuperscript{103} ibid.
\textsuperscript{104} See Robinson (n 73) 141 (‘A new Patents Act in 1949 (the current statute) eliminated the 1919 provision, and chemical substances now seem accepted as proper subject matter for patents, the Act expressly providing [in section 4(7)] that a claim to a new substance will not be construed as extending to the substance when found in nature’, citing in support the description of section 4(7) in Terrell on \textit{Patents} (11th ed, 1965) [52] as ‘appear[ing] to remove doubts which have been expressed whether a new ‘material’, produced by no n

\textsuperscript{105} See 1949 Act s 37.
\textsuperscript{106} See ‘Experience of the effects of UK legislation relating to licensing of patents, with particular reference to patents for chemical products, food, medicine and surgical or curative devices; Report presented by the UK Experts’ EXP/Brev (52) 10 (6 March 1952) 7-9.

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may be said that it should give a full disclosure of the nature of the invention and of how it is to be carried into effect. Essential details without which the invention could not be successfully worked must not be omitted from the description.¹⁰⁷

This statement expresses clearly the distinction that existed in law between a patent’s claims and its written description. Pursuant to that distinction, the former defined the applicant’s monopoly rights – ‘the fences of the monopoly’¹⁰⁸ claimed in the patent – while the latter contained the information required to secure the invention for the benefit of the public, thereby establishing the applicant’s entitlement to the rights. Consistent with this, the main requirement of the claims was that they ‘define with precision and without ambiguity the scope of the monopoly’, while the main requirement of the description was that it ‘give a full disclosure of the nature of the invention and of how it is to be carried into effect’.¹⁰⁸ The question remained as to what this entailed.

According to the rule of Mullard Radio, consistent with the principle of Esau’s Application, it entailed equiperation of the claim with the specification. Even after the introduction of the 1949 Act, that rule was applied in several cases independent of sections 4(4) and 32(1). For example, in Pottier’s Application¹¹⁰ it was applied to support the refusal of a patent for a process of treating hydrated seedlings. In Neva Corp’s Application¹¹¹ it was applied to support the refusal of a patent for an apparatus for inducing reduced awareness. And in Eastman Kodak Company’s Application¹¹² it was cited in support of the following principle:

Though mere width of claim is in itself no good ground of objection under section 14 [governing pre-grant opposition], it is a fundamental rule of patent law that the consideration which a patentee gives for his monopoly is the disclosure which he makes and the protection which he gets cannot extend further than is necessary to protect that which, in view of his disclosure, he is fairly entitled to cover.¹¹³

However, of greatest present interest is Olin Mathieson Chemical Corp v Biorex Laboratories Ltd.¹¹⁴ In that case, Graham J relied on the principle of Mullard Radio to support a test of claim validity in respect of a class of chemical products structured with reference to the following factors:

- The size of the class of chemical bodies covered by the claim;
- The desirability of supporting research in the drug and other fields; and
- The need to ensure that claims are not so broad as unjustifiably to stifle research by others – while noting the existence of statutory mechanisms (including compulsory licensing provisions) for preventing such abuses.¹¹⁵

Considering the legal basis for this test, Graham J said as follows:

This objection [of fair basis under section 32(1)] was introduced into the 1949 Act at the same time as the removal of the provision, contained in the previous Act, for revocation ‘on any ground on which a patent might have been repealed by scire facias’… and Sir Lionel argued that it was a broad objection directed against grants in which it could be shown that for one reason or another the consideration given by the

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¹⁰⁷ See ‘Report on the form and content of patent specifications; presented by the Experts of the UK of Great Britain and Northern Ireland’ EXP/Brev (52) 11 (18 March 1952) 5-8. See also EXP/Brev (53) 7 (n 95 above); ‘Observations of the United Kingdom Delegation’ EXP/Brev (56) 2 (11 June 1956) 9 (n 178).
¹⁰⁸ Robinson (n 73) 139.
¹⁰⁹ n 107.
¹¹¹ [1968] FSR 537 (SE, appealed unsuccessfully on other grounds to the PAT).
¹¹³ ibid 401.
¹¹⁴ [1970] RPC 157 (Ch).
¹¹⁵ ibid 192-193.
patientee by the disclosure of his invention in his specification was less than he should have given having regard to the width of his claims. In other words, section 32(1) covers the objection discussed at length in the case of [Mullard Radio] that a claim which is a ‘covetous’ claim, or one in which the claim does not ‘equiperate’ with the consideration given by the disclosure, is a bad claim. This requirement, said Sir Lionel, has always been fundamental in our patent law, and section 32(1) certainly includes it, but it is not, of course, limited to it.\(^{116}\)

Implicit was an understanding of the invention – on which questions of patent proportionality depend – as a term of legal art, defined to advance the policy objectives of the system, and (thus) an understanding of the requirement for an invention as a means of anchoring the system to those objectives. Importantly, neither the Mullard Radio principle nor its application in Olin Mathieson stopped Whitford J on the eve of the 1977 Act from affirming the validity of a UK patent for an L-form optical isomer, newly separated from its known racemate.\(^{117}\)

**Conclusion**

From the 18\(^{th}\) century to the 1970s, the inherent patentability of chemical products was widely assumed. However, the nature of the invention in the case of such a product was unclear, as was the scope of the resulting rights. When the matter was squarely raised before the courts, the implication of their judgments was that a product *qua* invention was the result of a method, protected to advance the industrial arts, and not existing (*qua* invention) independent of that method. In 1899, for example, Buckley LJ in *Kopp v Rosenwald* made clear his view that the law did not support the patenting of products as such, being limited instead to *manners of manufacture*. Similarly in 1908, Viscount Haldane in *British Thomson-Houston v Charlesworth*\(^{118}\) described as ‘wrong’ the proposition of Lord Davey in *Acetylene* that ‘if a new material had been discovered by no new means and by no new process of production, that material itself would have been a patentable article’.\(^{119}\) These decisions are important, for they suggest that Mr Temple Franks was not alone in his views regarding chemical product patents. They also account for the statement of the Sargant Committee that the weight of authority was against such patents, even in the absence of a ‘reported decision to that effect’.\(^{120}\)

In 1919, section 38A(1) of the 1907 Act was introduced, limiting the protection for chemical products to protection for the product-by-process alone. Even after that section was repealed, and the inherent patentability of products apparently affirmed, Graham J in *Olin Mathieson* drew on the ‘fundamental rule’ of law that a claim must equiperate with the specification in support of a test of claim validity focused on the impact of the individual patent.

The question remains as to the relevance of this under the contemporary (1977) Act. That Act does not define the invention in the manner above, with reference to the principles of the earliest patent legislation. Similarly, it does not share the normative basis of pre-1977 law, as an exception to a prohibition against monopoly grants.

**The Inherent Patentability of Chemical Products and Requirement for Proportionate Patent Grants Under the European Patent System**

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\(^{116}\) ibid 181.

\(^{117}\) See *Imperial Chemical Industries Ltd (Howe’s) Application* [1977] RPC 121 (PAT).

\(^{118}\) (1925) 42 RPC 180 (HL).

\(^{119}\) ibid 207.

\(^{120}\) See n 72, above.
Since 1977, UK patent law has been based on two European Conventions: the Strasbourg and European Patent Conventions. Neither contains an explicit fair basis requirement, nor a requirement for equiperating patent claims; and nor (it follows) does the 1977 Act. In addition, section 72(1) of that Act restricts the grounds of permissible revocation of a patent to those contained in section 72 itself. In combination, these factors cast doubt over the relevance of the authorities above, as the Court of Appeal in *Chiron Corp v Murex Diagnostics Ltd (No 12)*\(^{121}\) remarked:

A speculative claim, a claim to an obvious desideratum and a result claim are all alternative ways of describing a claim framed by reference to the result to be achieved rather than prescribing the means of achieving that result. The vice may lie in the fact that the specification and the claims give no instruction on how to achieve the result or in the fact that they teach one way of achieving the result but claim a monopoly to all ways of doing so. All the authorities to which we were referred in this connection were decided under the Patents Act 1949 or its predecessors. Thus they must be treated with caution in view of the fact that fair basis and best method were then grounds for revocation but are not now.\(^{122}\)

On the other hand, Lord Hoffmann in *Biogen* took a different view. After hearing submissions from counsel on pre-1977 law – including on ‘wide or speculative claims’\(^{123}\) – and reference to *Mullard Radio and Pottier’s Application*,\(^{124}\) his Lordship reached the following conclusion:

Section 72(1)(c) of the 1977 is not only intended to ensure that the public can work the invention after expiration of the monopoly. It is also intended to give the court in revocation proceedings a jurisdiction which mirrors that of the Patent Office under section 14(3) or the EPO under Article 83 of the EPC, namely, to hold a patent invalid on the substantive ground that, as the EPO said in *Exxon/Fuel Oils* (T 409/91) [1994] OJEPO 653, para. 3.3., the extent of the monopoly claimed exceeds the technical contribution to the art made by the invention as described in the specification. In the 1949 Act, this function was performed by another ground for revocation, namely that the claim was not ‘fairly based on the matter disclosed in the specification’ (section 32(l)(i)). The requirement of sufficiency was therefore regarded as serving a narrower purpose. But the disappearance of ‘lack of fair basis’ as an express ground for revocation does not in my view mean that general principle which it expressed has been abandoned. The jurisprudence of the EPO shows that it is still in full vigour and embodied in articles 83 and 84 of the EPC, of which the equivalents in the 1977 Act are section 14(3) and (5) and section 72(1)(c).\(^{125}\)

In 1999, Pumfrey J in *Monsanto Co v Merck & Co Inc*\(^{126}\) described this passage as supporting the *Mullard Radio* rule – referenced by his Lordship to Graham J’s decision in *Olin Mathieson* – and then proceeded to apply that (*Mullard Radio/Olin Mathieson*) rule to a patent for a class of chemical compounds.

[The passage from *Biogen v Medeva* above] seems to me to be a clear statement that the applicable principle is that the claim must equiperate (to use Graham J.’s phrase in *Olin Mathieson* v. Biorex [1970] R.P.C. 157) with the invention, and, if it does not do so, the claim will not be enabled across its full width, because it will cover matter which owes nothing to the invention disclosed. It follows that if the claim covers compounds which do not satisfy the representations made about them in the specification, it is likely to be invalid, because, again, the claim will be covering

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122 ibid 191-2 (emphasis added).
123 See [1997] RPC 1 (HL) 22.
124 See ibid 6-7, 16, 28 and 30.
125 [1997] RPC 1 (HL) 54.
compounds which owe nothing to the teaching of the specification…  

On appeal to the Court of Appeal, however, Lord Justice Aldous rejected this reasoning:

I do not believe it is helpful to assume that the test of sufficiency under section 72(1)(c) of the Act is that applied in Olin Mathieson which was decided under the 1949 Act. The issue in that case was whether the claim was fairly based (see section 32(1)(i) of the Patents Act 1949). … The true test is that laid down in the section 72(1)(c) of the 1977 Act. Further, I cannot endorse, as a general proposition of law, the judge’s conclusion that if a claim covers compounds which do not satisfy the representations made about them in the specification it is likely to be invalid. That was the law under the 1949 Act in that a patent could be revoked if it was obtained under a false representation. The test of sufficiency under the 1977 Act is concerned with enablement. The specification must contain an enabling disclosure of the invention. If the invention requires satisfaction of representations, then the specification will not be sufficient unless those representations are satisfied.

With respect this reasoning is problematic. For a start, the principle applied in Olin Mathieson was not the principle of fair basis itself, but rather the principle that a claim must equiporate with the specification so as not to exceed the consideration for the grant. And second, the passage ignores Lord Hoffmann’s understanding of ‘enabling disclosure’ as requiring (consistent with pre-1977 law) that ‘the claims … be supported by the description’, including in the sense of EXXON/Fuel Oils, namely, of corresponding to the technical contribution to the art. As Pumfrey J’s decision in Monsanto makes clear, this was simply a restatement of the Mullard Radio rule. Further, that such rule should survive the European regime was the express intention of the European drafters.

The Drafters’ Intent Regarding Chemical Product Patents and the Requirement for Equiporating Claims

In 1951, work commenced on the patent regime that would come to displace the Statute of Monopolies-based system of pre-1977 UK law. As noted above, that regime is built on two Patent Conventions – the SPC 1963 and the EPC 1973 – which provide the basis for the post-1977 harmonised regime. During the course of each Convention’s preparation, both the inherent patentability of chemical products and the requirement for proportionate patent grants were considered by the Conventions’ respective drafters. In the case of the SPC, they were the members of the Council of Europe’s Committee of Experts on Patents, and in the case of the EPC, they were the participants of the Inter-Governmental Conference for the Setting Up of a European System for the Grant of Patents (Luxembourg Conference), and the Munich Diplomatic Conference for the Setting up of a European System for the Grant of Patents (Munich Conference).

The Inherent Patentability of Chemical Products

The patentability of chemical products arose early in discussions of harmonisation, after being identified by the European Committee of Experts on Patents as an issue on which state laws diverged. Indeed, of 17 states surveyed in 1951, eight (Germany, Luxembourg, Belgium, Denmark, Ireland, Norway, Sweden and Switzerland) prohibited patents for chemical products, five (France, the UK, Greece, Turkey and Switzerland) allowed them, and one (the Netherlands) allowed limited protection through claims for chemical products-by-process. Of the eight that prohibited chemical product patents, a majority did so by express

127 [2007] RPC 709, [67].
129 See CM/WP IV (51) 9 (n 95) 19-20.
provision, suggesting policy as the basis for the prohibition;\(^\text{130}\) with a notable exception in the case of Denmark, whose delegate to the Committee of Experts on Patents reported in 1951 that ‘by the laws of his country a product was not considered to be an invention’.\(^\text{111}\)

Nonetheless, the question considered by the Committee in 1951 was not whether chemical products possessed the constitutive properties of inventions, which it seems to have been accepted that they did, but whether they ought nonetheless to support a \textit{per se} exclusion. Following the results of the survey above, the members of the Committee were asked to ‘set aside preoccupations of a national character’ in considering that issue, and focus on the desirable position at law.\(^\text{132}\) Despite this, they could not agree:

The Committee of Experts considered the question of the exclusion from the scope of patent protection of categories such as chemical and pharmaceutical products and manufactured foodstuffs. The majority of the Committee agreed that such exclusion should no longer obtain, being of opinion that any adverse consequences arising from the removal of exclusions could be avoided by a system of compulsory licenses. Certain members of the Committee however felt themselves unable at present to form a definite opinion and in consequence, the Committee considered that the matter should be made the subject of further study by the members with a view to discussion and examination at a later meeting.\(^\text{133}\) The further study was completed by the end of the year with the aim not of proposing a solution \textit{per se}, but of exploring in depth the relevant issues so that the Committee might reach an informed position.\(^\text{134}\) In it, several issues were raised against patentability. One was that chemical products might not, in principle, be appropriate for a patent, on the ground that the protection conferred by a product patent – valid on the basis of a single industrial application of the product\(^\text{135}\) – might exceed the patent’s contribution to the art.\(^\text{136}\) The reason was similar to that given in \textit{Kopp v Rosenwald Bros} above – that chemical products do not involve the process element of a mechanical product – except that the focus of the study was on methods of applying a chemical product rather than on methods of manufacture \textit{per se}.\(^\text{137}\) Specifically, the study suggested that chemical products were less likely to be of use without further acts of invention, which acts might be precluded if the products were patented. Hence its further suggestion, that patents ought not to be available for chemical products as such, or inventive activity would be at risk of being stifled.\(^\text{138}\)

Against this, the study recognised that ‘unless the patent for the product is to be in fact only a patent of ‘application’ and not ‘of product’ it should cover not only the application or applications indicated by the inventor but also all possible applications’.\(^\text{139}\) It also noted, consistent with this,

\begin{quote}
…that the invention of the new application or even of the new process was only rendered possible by the discovery of the product, and that in consequence, the inventor of the process or application should in equity pay tribute to the inventor of
\end{quote}


\(^{131}\) ‘Draft Official report of the Meeting of 6th July, 1951, held The Hague in the Octrooiraad (Second Session)’ CM/WP IV (51) PV7 (7 July 1951) 6.

\(^{132}\) See ibid 6.

\(^{133}\) ‘Resolutions adopted the session of the Committee of Experts on Patents held The Hague on 2nd to 9th July 1951’ CM/WP IV (51) 17 final (7 July 1951) 8.

\(^{134}\) See ‘The Patentability of Products’ CM/WP IV (51) 27 (30 November 1951) 2, 6.

\(^{135}\) See ibid 5. The study also referred to the possibility of speculative product claims resulting in obstructive patents the revocation of which might, for reasons of cost, be a less attractive choice than payment of a royalty.

\(^{136}\) See ibid 4-6.

\(^{137}\) ibid 4.

\(^{138}\) ibid.

\(^{139}\) ibid 5.

The final version of this article appears in the King’s Law Journal ((2009) 20 KLJ 489–526), published by Hart Publishing. © 2009 (Justine Pila). All rights reserved.
the product who, even though he may not have realised all the implications of his discovery, has made a permanent contribution to technical progress and should not find himself dispossessed by the effect of a late subsidiary discovery.\footnote{140} Added to this were further points of a strictly pragmatic nature, namely, the desirability ‘in the interests of administrative simplicity’ of treating chemical substances in the manner of other products, and allowing any resulting social inconveniences to be resolved by a compulsory licensing system.\footnote{141} In support of treating chemical products as patentable \textit{per se}, three further points were made in the study, reminiscent of the views of the 1931 Sargent Committee:

\begin{quote}
[T]he injustice which [denying protection to chemical substances] appear to involve for the discoverers of substances, on the whole more important than certain mechanical novelties which are fully protected; the uncertainty of the physico-chemical tests which decide whether or not the substance is a true chemical product or species; as well as the differentiation, often not easy, between the product and the process, have given rise to a literature too abundant and too well-known to be reviewed here.\footnote{142}
\end{quote}

In support of allowing compulsory licensing in respect of such patents, the study referred to the harm that those patents might cause on account of their importance to later inventors, and their irreplaceability to researchers within the chemical field.

Thus, a new mechanical part, for example a special kind of screw or valve, may well have many different applications, but in general they are immediately foreseeable once the nature and function of the device have been explained, whereas, although the process of ‘tailoring molecules’ i.e. designing a new chemical product with a view to achieving certain definite properties for a particular application, may be said to have begun, it is still in general the case that a new chemical compound is first prepared (perhaps with some definite object in view, perhaps by accident) and is then applied to a variety of different uses.\footnote{143}

By 1952, the patentability of products remained a central issue for the drafters; one of two on which their efforts at unification were focused.\footnote{144} Reflecting again the commitment to succeeding in those efforts, the drafters were asked to shelve their personal views and ‘do everything possible’ to reach an agreement.\footnote{145} One response to that request was a joint proposal by the UK and German delegations covering three contentious categories of products: chemical substances, foodstuffs, and pharmaceuticals.\footnote{146} The argument made in the proposal was that patents should be available for each type of product, with any harm to the public interest resulting from such patents addressed by a compulsory licensing system such as that which existed in the UK already. The Committee, however, was not convinced, and all but repeated its earlier resolution.\footnote{147}

In the event, that was essentially the end of the matter, at least for the purpose of the Strasbourg Convention.\footnote{148} The reason is that in 1955, the drafters of that Convention decided
to exclude chemical products from their agenda, on account of the public interest issues which their patenting raised. Following that agreement, the drafters focused on a more limited form of harmonisation that would preserve national sovereignty on all but fundamental patentability grounds, while giving each country by express provision the power of refusing protection in respect of certain categories of claim.

In 1961, the drafters considered the terms of that reservation, and restricted it to pharmaceutical products and horticultural processes, and by a later draft, to ‘food or pharmaceutical products, or other chemical substances and … alloys’. After discussion, the reference to chemical substances and alloys was deleted from the text, leaving the version that was signed in 1963, and explained in the following contemporaneous note:

The exclusions provided for in Article 2 are the only ones that Contracting States are entitled to maintain permanently in their legislation. With regard to the most controversial question of all, for which the proposed solutions are many and varied, namely the patentability of chemicals, foodstuffs and pharmaceuticals, the draft aims at ensuring uniform national legislation in the direction of the widest patentability. However, on two particularly difficult points (patentability of food and pharmaceuticals and of agricultural and horticultural processes) it was found necessary to allow Contracting States to postpone bringing their legislation into line with the Convention by means of a reservation...

The implication to be drawn from this is that by 1963, the Strasbourg drafters had changed their view of the appropriateness of harmonising European laws with respect to the patenting of chemical substances. Having previously excluded substances from their harmonisation agenda, the drafters now included them, on the basis (as stated in the memorandum above) that they did not raise sufficient difficulties to justify compromising their commitment to ‘ensuring uniform national legislation in the direction of the widest patentability’ in the context of ‘chemicals, foodstuffs and pharmaceuticals’. It followed that to the extent that chemical substances satisfied the Convention’s patentability requirements, they would need to be accorded patent protection.

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150 See Pila, ibid ns 59-60.

151 ‘Draft of a European Convention relating to Patents of Invention’ EXP/Brev (53) 19 (10 November 1953) 6. Grounds of revocation were also provided for, which grounds did not extend to insufficiency or fair basis.

152 See ‘Preliminary draft Convention on the unification of certain points of substantive law on patents for inventions’ Article 6(1) in ‘Report by the Committee of Experts to the Committee of Ministers on the meeting held Strasbourg from 2nd to 5th May 1961’ (12 June 1961) CM (61) 97 22 (Appendix V).


154 An Austrian proposal of 1963 to extend the permanent exclusions to cover chemical substances, foodstuffs, beverages, drugs, disinfectants and therapeutical processes, and to define more restrictively the role of the claims in determining the scope of protection conferred by a patent (see ‘Unification of Laws Convention; Amendment suggested by the Austrian Delegation’ EXP/Brev (63) 7 (10 May 1963) 96-99).
The EPC history followed a similar trajectory, with the question of patents for chemical products occupying a similarly central place in the drafters’ discussions. This is apparent from the following explanation by Dr Kurt Haertel – Chairman of the EPC Luxembourg Conference – of their original vision of harmonisation, and its implications for chemical product patents.

What effect does the European patent have in those countries for which it has been granted? It will have the same effect as a national patent granted by the national patent office. It is a logical consequence of this approach that a European patent can be declared invalid in one country even if it was validly granted by the European Patent Office. An example can best illustrate this. The European patent law provides for the patentability of chemical and pharmaceutical products. If such a patent has been granted for a country which does not provide protection for chemical and pharmaceutical products, then the European patent could be declared invalid in that country by a national nullity proceeding. This has been called the ‘minimum approach’.

As Dr Haertel went on to explain, at the January 1970 session of the Conference the EPC drafters abandoned this approach in favour of a ‘maximum’ approach instead. In the mind of Dr Haertel at least, this raised a doubt over the drafters’ earlier agreement to support protection for chemical products.

This concept implies that the European patent can only be declared invalid in the States for which it was granted, by reasons provided for in the European patent law, and not by those provided for in the domestic patent laws. ... Whether the Convention Draft will eventually contain the minimum approach or the maximum approach, will depend upon the results of discussions with various interested international organizations. But even if the interested parties opt for the maximum approach, as this author believes they will, that solution as such will not be incorporated in the Convention. In this event, the Signatory States will have the right, at least during a period of transition, to be totally exempt from the maximum approach, or to exclude certain areas of technology, for example, that of chemical and pharmaceutical products, from the maximum approach.

In the result, a temporary reservation was proposed for the Convention that exempted EPC Signatory States from according protection for chemical products. Originally modelled on the Strasbourg reservation, that provision was extended at the 1973 Munich
Conference to apply in respect of chemical substances. The reasons are apparent from the records of the debates.  

First, the drafters’ commitment to a maximum solution created a tension between unifying standards of patentability on one hand, and ensuring the greatest number of signatories to the Convention on the other. While states with developed chemical industries were unfazed by the prospect of European patents for chemical products, states with developing chemical industries were not, and insisted on a right to reserve their positions for a ten-year renewable period at least. For some developed states and non-governmental organisations, the situation was complicated by a belief that the premise of that right was false; that patents would stimulate (not impede) industrial growth. Consistent with this, they regarded the position of developing states as ‘represent[ing] a failure to understand the function of a patent system in a modern economy’. Supporting that argument was the suggestion by some that patentable inventions in chemicals ‘accounted for between 35 and 40% of all inventions’ due to the ‘extremely high … cost of chemical research and development’. Further, while it was accepted that chemical product patents had only recently begun to be granted by industrialised nations, the reason for the historical position in those nations was said not to be ‘the level of industrialisation … but the wishes of the chemical industry itself’. According to the European Industrial Research Management Association (EIRMA):

The reasons for such limitations no longer existed and it was difficult to argue that patents issued to foreign companies for chemical products could slow down the economic progress of less advanced countries. This was further underlined if account were taken of the ever increasing degree of industrial cooperation within Europe and the possibility of preventing abuses by means of compulsory licensing. This was consistent with a further point, that the political and social difficulties created for governments by allowing patents for food and pharmaceuticals did not apply with respect to chemical products. Expanding on this:

The United Kingdom delegation also felt that it would not be in a country’s interests to exclude as large and important an industrial sector as chemical products as such from protection while the processes for manufacturing such products could be patented. Countries which, for social reasons, wished to protect the public both as regards the price of such products and manufacture of an adequate proportion of them by local undertakings could solve the problem by compulsory licensing. Finally, the
United Kingdom felt that Article 166, as it stood, took sufficient account of the legitimate interests of those countries which were not yet able to fully accept the system established by the Convention.166

The EIRMA delegation went further, by ‘point[ing] to the distortions of the discriminatory effect which [a reservation] would have on research-based industries, or at any rate, those located outside the territory of the Member States of the Communities.’167

In addition to rejecting each of these arguments, and the suggestion of discrimination on which they were based, developing states appealed to two central factors. The first was the nature of harmonisation itself, as a long-term project that could only be accomplished slowly, in stages.168 And the second was the wider political dimensions of the issue, including the need for regard to developing states’ efforts in accommodating the maximum approach above.169

In the event, the last of these factors prevailed, and after a long and detailed debate on the issue, the decision was taken by the EPC drafters to extend the reservation to chemical products.170 That decision was described at the time as representing a compromise ‘between the fullest possible harmonisation of laws governing patentability and the accession of the greatest possible number of States’;171 or in the words of the German delegation, ‘a point of connection between those States which supported the maximum solution and those which could not fully do so’.172 The result was Article 167(1)(a), providing as follows.

Each Contracting State…, at the time of signature or when depositing its instrument of ratification or accession, may reserve the right to provide that:

(a) European patents, in so far as they confer protection on chemical, pharmaceutical or food products, as such, shall, in accordance with the provisions applicable to national patents, be ineffective or revocable; this reservation shall not affect protection conferred by the patent in so far as it involves a process of manufacture or use of a chemical product or a process of manufacture of a pharmaceutical or food product.

The Requirement for Proportionate Patents

In 1952, the Committee of Experts noted the divergence that existed in national regulations relating to the requirement for patent claims. According to an excerpt from a 1952 note:

Claims are required in all those countries whose legislations provide for the preliminary examination of inventions. They are also required in some other countries without such a system of prior examination (Italy, Switzerland). They are not obligatory in Belgium, France, Greece, Luxembourg or Turkey. The French law even goes so far as to exclude them completely… The Greek law, without speaking of claims in the proper sense of the term, provides nevertheless for a short indication of the characteristic features of the invention. Luxembourg provides for the presentation of a resume or of claims the drafting of which is not, however, governed by very precise regulations. In the countries where claims are required, the legal provisions in the matter are conceived in broadly similar terms.

166 ibid [1008].
167 ibid [1019].
168 ibid [1003].
169 ibid [1004].
170 It was agreed by the drafters that the reservation would apply only in respect of the products as such. ibid [1157].
171 ibid [1008].
172 ibid [1107].
2. Propositions. … The claims must be accurate and concise without needless repetition of their phrases, and fairly based upon the matter disclosed in the description. 173

Further, according to the Secretariat General’s 1953 Comparative Study of national laws, the UK was the only country which expressly allowed revocation for lack of fair basis. 174 Given this, and the role already given to claims by the Strasbourg drafters, 175 it is unsurprising that the list of revocation grounds contained in the various draft Conventions did not extend to lack of fair basis itself. 176 Nonetheless, the drafters made explicit their view that the ‘fundamental rule’ of Mullard Radio could be raised to support revocation of a patent:

When drafting sub-paragraph (b) [allowing revocation of a patent for insufficiency], the Working Party took into account the balance to be sought between two kinds of problem: the public interest in knowing the exact scope of a patent, on one hand, and the continuity of the decisions taken by the European Patent Office on the other….

It was noted that sub-paragraph (b) could apply, in conjunction with Article 71, to the case raised by the British delegation concerning ‘speculative claims’, the scope of which would only be evident at a later date, when an inventor is able to make a product covered by the patent, by a process not referred to therein. 177

In insisting on this legal position as late as 1970, the UK remained true to its commitment of 1956:

[The UK] Courts have always refused to countenance wide and speculative claims, particularly in relatively unexplored fields, based on a disclosure in a small area of the field. Such claims would give an inventor a monopoly out of proportion to the actual inventive contribution which he has made, would be an unwarrantable interference with further research and invention in the field, and would contravene the principle underlying the UK law that the monopoly granted to an inventor should not exceed the consideration which he gives in return to the public. This requirement of the UK law may lead in practice to difficult decisions since the question is basically one of degree, but the UK experts consider that a comparable requirement must, in the general interest, be included in any unified law. 178

Reading this passage, one is reminded of Lord Hoffmann’s reasoning in Biogen v

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173 EXP/Brev (52) 23 (n 148) 3-4. See also n 178.
174 EXP/Brev (53) 18 (n 148) 38-43.
175 See Robinson (n 73) 139 (describing the claims in pre-1977 UK law as defining ‘the fences … of the monopoly, rather than [as in Germany] being directed to the central idea of the invention – the Erfindungsgedanke’); CM (62) 160 (n 153) [10] (‘The stipulation regarding ‘claims’ in Article 6 introduces a considerable change into the practice of certain States and represents an important step toward the unification of legal systems. The final paragraph of this Article [‘The extent of the protection conferred by the patent shall be determined by the terms of the claims. Nevertheless, the description and drawings shall be used to interpret the claims.’] seeks to lay down a principle for interpreting claims which is somewhere between the system whereby claims must be interpreted strictly according to the letter and that in which they do not play a decisive part in defining the limits of protection.’)
176 See, eg, EXP/Brev (53) 19 (n 151); CM (61) 97 (n 152) 20-22 (Appendix V); BR/40/70, 2-3 (discussed in BR/49/70 (n 156) 30-31); ‘Second Preliminary Draft’ (n 159) Article 133; ‘Preparatory Documents Drawn up by the Inter-Governmental Conference for the setting up of a European System for the Grant of Patents’ 144-146 (Article 138).
177 BR/40/70, 2-3.
178 EXP/Brev (56) 2 (n 107) 9. See further 7 (describing the UK law of claims as ‘differ[ing] radically from those of some European countries, according to which the Courts may seek outside the claims for the real invention, i.e. for the monopoly or ‘forbidden territory’’, and continuing: ‘In the opinion of the United Kingdom experts the United Kingdom practice is the correct one. … Having regard to the views repeatedly expressed by the Unied Kingdom Courts, it is considered unlikely that any contrary practice would be entertained.’)
Conclusion

It can be seen from this discussion that the drafters of the European patent system supported both the inherent patentability of chemical products and a prohibition against non-equiparating claims. The question remains as to what this meant, and how the principles would operate inter se. While there is no express discussion of this recorded in the travaux, the drafters clearly understood that a patent for a product would be for the product per se, independent of the method by which it was made. Given this, it seems reasonable to presume that they did not intend the requirement for equiparating claims would proceed from that basis. Still, it is remarkable that the issue was not expressly discussed after 1951. This is particularly so given that the issue was being discussed elsewhere in Europe, at the time of the Luxembourg and Munich Conferences, by other European patent specialists, including European patent judges. An indication of their views can be obtained from the report of a 1971 conference.

A QUESTION OF NON-DISCRIMINATION? FROM THE MANNHEIM CONFERENCE 1971 TO THE EPC 2000 REVISION

In 1971, the German Association of Comparative Law held its annual Conference for Comparative Law in Mannheim, with representatives from civil and common law countries. The working session for the Industrial Property and Copyright Law Section of the Association took place on 24 September, and was conducted under the theme ‘Fundamental Questions of Protection for Chemical Inventions’. Three options for protection were discussed at the Conference: (a) absolute protection for chemical products; (b) utility-linked protection for chemical products; and (c) an intermediary solution allowing (a) or (b), depending on the product’s contribution to the art. The speakers were from Canada, Sweden and Germany, and reported the state of protection for chemical products as follows:

Mr Robinson illustrated in his talk that absolute product protection of chemical inventions is recognised in Canada, Great Britain and the United States. In contrast to this, it was shown from Mr Lewin’s presentation that the Scandinavian countries, after exhaustive discussion of the pros and cons, decided in favour of utility-linked product protection in their uniform patent statutes which became effective on January 1, 1968. In Germany, the question is still not finally settled.

Discussion of the options at the Conference was thorough. Those who supported utility-linked protection did so largely on the basis of patent theory, arguing that utility-linked protection would encourage more vigorous inventive activity and induce patentees to disclose more completely their patented inventions. By contrast, those who supported absolute protection did so largely on the basis of industrial practice, doubting the relevance of theoretical argument itself. While the discussants were split over the ideal result, ‘strong

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179 See n 8, above.
181 ibid 357.
182 See Robinson (n 73).
183 Mannheim Proceedings, 358; on the position in Germany, see Nastelski (n 104).
184 ibid 359.
185 ibid. Some supporters of absolute protection also believed theory to be on their side, supporting the view in Lundbeck that the implications of policy for the issue were ambivalent (see n 21, above).
notice’ was taken of an ‘intermediary proposal’ made by German judicial circles:

[A]bsolute product protection is certainly appropriate for a compound which is inventive with regard to its structure. Such a product which has previously not existed and which has not been suggested also absolutely enriches technology because it exhibits, as such, novelty, inventive step and technical advance. On the other hand, if inventive quality is due to a new product only in view of its unexpected effects, the product as such having been suggested, then only utility-linked product protection is appropriate for this product.\(^{186}\)

By tying the scope of monopoly rights to the technical contribution made by the product, this proposal was reminiscent of *Hill v Thompson* above,\(^{187}\) and also presaged *EXXON/Fuel Oils*. Notwithstanding this, the proposal was rejected. Indeed, according to the published report of the Conference, the only real point of agreement among participants was the importance of equal treatment for chemical inventions.

[Supporters of absolute protection] greeted the repeal of the prohibition against product protection effected by the Interim Law as the removal of a discrimination against chemical inventions. However, if only a utility-linked product protection were now to be granted, that would mean a new discrimination because product patents in all other areas of technology would grant protection without limitation to particular uses of the protected article. In response, proponents of utility-linked product protection emphasized that product inventions in other areas of technology also are not protected absolutely, but instead are protected only within the framework of their intended use. An inventive idea is always characterized by a problem and its solution. Both circumscribe the scope of protection. Thus, an article is not infringing or anticipatory if another problem is solved with it. The problem to be solved by an invention, in a patent law sense, implies the utility link of its protection.\(^{188}\)

Commenting on this aspect of the Mannheim discussion, the authors of its report concluded as follows.

The fact that proponents of both absolute and utility-linked product protection referred to the argument of placing chemical inventions on the same footing as other inventions showed that there exists here an important field for further investigation. It should be clarified to what extent product inventions are generally protected and in what respect product inventions in the chemical arts differ from article inventions in the other arts, possibly even to such an extent that new, independent patent categories must be sought for chemical inventions.\(^{189}\)

A year after the report of the Mannheim Conference was published, the ‘field of further study’ recommended in this passage became even more important as a result of the introduction of Article 27.1 of TRIPS.\(^{190}\) According to that Article, ‘patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step, and are capable of industrial application’. Further, ‘patents shall be available and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced.’

In 2000, the EPC was amended to reflect these principles.\(^{191}\) As a result of that

\(^{186}\) ibid 363. This proposal was criticised by some participants for being based on an inordinately difficult distinction.

\(^{187}\) See n 45, above.

\(^{188}\) Mannheim Proceedings, 360.

\(^{189}\) ibid.


\(^{191}\) See ‘Basic Proposal for the Revision of the European Patent Convention’ Doc CA/100/00 e 37 (‘Article 52(1) EPC has been brought into line with Article 27(1), first sentence, of the TRIPs
The final version of this article appears in the King’s Law Journal (2009) 20 KLJ 489–526), published by Hart Publishing. ©: 2009 (Justine Pila). All rights reserved.
amendment, Article 52(1) of the EPC states as follows: ‘European patents shall be granted for any inventions, in all fields of technology, provided that they are new, involve an inventive step and are susceptible of industrial application.’ The same change has not been made to section 1(1) of the Act, with the result that it differs from its EPC counterpart. In the face of this difference, however, the UK courts are likely to do as they have done with section 1(2), and defer to the text of Article 52.192 In combination with section 60 of the Act, which defines infringement with respect to method and product patents, this confirms the centrality of the TRIPS non-discrimination principles in contemporary European law and jurisprudence. Given that centrality, and the recurrence of discrimination as a theme in the history above, it seems appropriate to consider the meaning of that concept, and its implications for the patentability of chemical products.194 Specifically, it seems appropriate to consider whether the courts could legitimately deny or restrict protection for a chemical product as such on the basis of either their conception of products qua inventions, or their application of the requirement for equiperating claims.

A preliminary issue is what principles ought to be applied in considering the issue of discrimination. The TRIPS Agreement has been approved by a decision of the EC Council, and held to be a European Community Treaty within the meaning of section 1(2) of the European Communities Act 1972, with the result (according to Jacob LJ in Pozzoli SPA v BDMO SA196) that it ought to be construed in a purposive and teleological manner, similar to the manner of the EPC itself.197 However, the applicable jurisprudence remains unclear. In particular, it is unclear whether a UK court considering the matter ought to look beyond European and international legal principles. The answer, it is submitted, is that it ought to do so, for the issue is less compliance with the TRIPS Agreement itself, or even the terms of the EPC,198 than the proper application of the 1977 Act.

If the courts were to look to national law, one source of potential value would be the Disability Discrimination Act 1995. According to section 24 of that Act, a person discriminates against a disabled person if

…(a) for a reason which relates to the disabled person’s disability, he treats him less favourably than he treats or would treat others to whom that reason does not or would not apply; and (b) he cannot show that the treatment in question is justified.

In its focus on reasons that ‘relate to’ the prohibited ground, this test would seem to

Agreement with a view to … making it plain that patent protection is available to technical inventions of all kinds”).

192 See, eg, Symbian v Comptroller General of Patents [2008] EWCA Civ 1066, [6].

193 See n 103, above (noting the role of discrimination in the Swan Committee’s recommendation that section 38A(1) be repealed); ns 37 & 62 (reflecting the courts’ assumption that chemical products would have the same status for patentability purposes as mechanical products); ibid. With respect to section 38A(1), as long as the reason for introducing that section was as recorded in Hansard – to reduce German use of the UK patent system – it seems likely that it would be regarded today as offending Article 27.1 of TRIPS; see Canada – Patent Protection of Pharmaceutical Products, Request for the Establishment of a Panel by the European Communities (12 November 1998) WT/DS114/5 [7.92] (‘[i]t is quite plausible … that the TRIPS Agreement would want to require governments to apply exceptions in a non-discriminatory manner, in order to ensure that governments do not succumb to domestic pressures to limit exceptions to areas where right holders tend to be foreign producers.’) It was alluded to in the reference to the ambivalence of policy arguments on the issue, and the differential treatment for products and processes which it was said by Lord Mance would result from accepting the appellant’s argument (see n 21, above).


196 See Aerotel Ltd v TeLeo Holdings [2006] EWCA Civ 1371, [10]; CFPH’s Application [2005] EWHC 1589, [26]-[27] per Mr Prescott QC (supporting a teleological interpretation of EPC Arts 52(2) and 52(3) in recognition of their basis in an international treaty).

197 This is notwithstanding the UK courts’ treatment of the EPC as the relevant source of law in this area; ibid.
require a similar causal connection to that required by Article 52(1)\(^{199}\). Further, a comparison of the House of Lords and WTO decisions in *London Borough of Lewisham v Malcolm*\(^ {200}\) and the WTO Panel hearing the *Canada–Patent Protection of Pharmaceutical Products*\(^ {201}\) respectively suggests that similar principles govern the application of section 24 as govern the application of Article 27.1 itself. Extrapolating from *Malcolm*, whether a legal principle is discriminatory depends on the underlying reason for the principle and its relationship to the relevant prohibited ground, and potentially also on its comparative impact. According to the *Canada* case, the word ‘discriminate’ must be given its ordinary meaning, thus covering direct and indirect discrimination but not extending to all forms of differential treatment\(^ {202}\). In particular, ‘Article 27.1 does not prohibit bona fide exceptions to deal with problems that may exist only in certain product areas’\(^ {203}\), noting that ‘preoccupation with the effects of a statute in one area does not necessarily mean that the provisions applicable to other areas are a sham, or of no actual or potential importance’, and that the statute is consequently a (discriminatory) sham.\(^ {204}\) On the other hand, ‘to the extent the prohibition of discrimination does limit the ability to target certain products in dealing with certain of the important national policies referred to in Articles 7 and 8.1, that fact may well constitute a deliberate limitation rather than a frustration of purpose’\(^ {205}\).

Applying these principles, it seems that neither a threshold exclusion of product *per se* claims resulting from a conception of products *qua* inventions, nor a test of claim validity such as that in *Olin Mathieson*, would discriminate as to a subject matter’s field of technology, nor as between products and methods themselves, regardless of whether it impacted disproportionately on chemical products and claims. This is because the reason for the test would be unrelated to such matters, even if the fact which triggered its application—for example, the disproportionality of rights conferred by a patent—were due to the chemical (or structural) nature of the claim.\(^ {206}\) This is important, for it suggests that neither pre-1977 conceptions of the invention as a method rather than an artefact, nor Graham J’s test in *Olin Mathieson*, ought to offend the principles of non-discrimination that run through the Act and European patent jurisprudence. Indeed, one could argue that those principles require such a test, consistent with the understanding of the requirement for an invention above, as anchoring the system to its purpose, and of that purpose itself as the reference for testing (and thereby ensuring) the technological neutrality of the system.

**CONCLUSION**

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\(^{199}\) Article 27.1 requires ‘discrimination *as to* … the field of technology’ (emphasis added).

\(^{200}\) [2008] UKHL 43.

\(^{201}\) *Canada – Patent Protection of Pharmaceutical Products, Complaint by the European Communities and their member States: Report of the panel (17 March 2000)* WT/DS114/R.

\(^{202}\) ibid [7.94].

\(^{203}\) ibid [7.92].

\(^{204}\) ibid [7.104].

\(^{205}\) ibid [7.92]. Article 7 in particular provides as follows: ‘The Protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.’

\(^{206}\) The reason is the nature of the relevant comparator, which, applying the principles from *Malcolm* [2008] UKHL 43 least, would be a non-chemical product that, because of the scope of its associated claims, and the impact of a patent on the field of research, raises issues of disproportionate monopoly protection. This analysis is consistent with the interpretation of Article 52(2) EPC supported in an earlier paper (Justine Pila, ‘Dispute over the Meaning of ‘Invention’ in Art. 52(2) EPC – The Patentability of Computer-Implemented Inventions in Europe’ (2005) 36 IIC 173 185-187). See also Graeme Dinwoodie and Rochelle Dreyfuss in ‘Diversifying Without Discriminating: Complying with the Mandates of the TRIPS Agreement’ (2007) 13 Michagan Telecommunications Technology L Rev 445, 451-453.

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In *Lundbeck*, the House of Lords affirmed the validity of a patent for an isolated chemical product, supported by a method of producing the product but protecting the chemical product as such independent of the method by which it was made. In so doing it appears to have resolved a longstanding tension between granting patents for chemical products, and requiring that the scope of monopoly rights equipate with the disclosure in the specification. It also appears to have rejected the *Biogen* view of the balance to be struck between inventors and the public, and the commitment expressed by Lord Hoffmann in that case to promoting ‘research and healthy competition’ by not allowing the first to achieve an obviously desirable goal to monopolise every way of achieving that goal.

However, their Lordships’ decision is a limited one, applying only in respect of isolated products. Further, their support for distinguishing different categories of claims leaves scope for adopting a different approach in respect of other types of products. Ideally, such an approach would recognize the role of the requirement for an invention in restricting the protection conferred by the system to individual subject matter *qua* invention, and support a conception of subject matter *qua* invention as depending in part on the policy objectives of the system, and the economic and social impact of the patent. Such an approach has the support of contemporary (UK and European) law, pre-1977 patent jurisprudence, and the intent of the European drafters themselves. Provided its aim is to ensure proportionate protection having regard to the scope of the claim in question and the impact of the patent on the relevant field, any differential treatment ought not to constitute ‘discrimination’. Indeed, such differential treatment may be required precisely to avoid discrimination.

The principle ‘that the monopoly granted to an inventor should not exceed the consideration which he gives in return to the public’ has always been central to UK law. The difficulty lies in defining good ‘consideration’, and that which the public receives from a patent. It is submitted that in resolving these issues the courts must be mindful of contemporary EPO authority, without straying too far from the UK’s fundamental traditions, and the original purpose of the patent system in supporting the advancement of the industrial arts. They ought also to take account of the requirement for equal treatment of inventors having regard to differences between the arts – and the differential impact of individual patents – and their implications for conceptions of proportionate grants. And finally, they ought to consider further the restriction of protection to patentable inventions, and the implications of that restriction for judicial conceptions of individual subject matter. Important is that such conceptions reflect the law’s ontology of the invention, so that the scope of protection conferred by a patent is limited to the subject matter described in the claim when properly conceived *qua* invention.

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207 N 178.

208 On the concern of the Courts in the *Lundbeck* cases to reach a decision consistent with EPO jurisprudence, noting in this context section 130(7) of the 1977 Act, see [2009] UKHL 12 [7] (Lord Scott), [35] (Lord Walker). Cf [46] (Lord Mance, emphasizing 'that the general concepts which are the common currency of patent lawyers are founded on a statutory text, and cannot have any other firm foundation').

209 See Gruber & Kroher (n 64) 735-736 (noting the importance of ensuring public access to essential drugs, and thus of requiring that monopoly patents in the pharmaceutical field are ‘strictly tailored’ to the scope of the supported claims).

210 Cf *Merrell Dow Pharmaceuticals Inc v H N Norton & Co Ltd* [1996] RPC 76 (HL) 88 (Lord Hoffmann).

211 Cf *CFPH’s Application* [2005] EWHC 1589, [93] (Mr Prescott QC, supporting a conception for subject matter ‘under the description “invention”’).