

JUDICIAL INTERPRETATION OF THE STATUTE WITHIN AUSTRALIAN LAW

Concept of 'manufacture' as a patentable subject matter test

English law is first thought to have considered the meaning of the term 'manufacture' as a subject matter test in *Boulton v Bull* (1795)², which concerned a patent for the steam engine invented by James Watt. Heath J approved of the vagueness of the concept:

because it precludes all nice refinements ; it was introduced for the benefit of trade.it ought to be that which is vendible.....

while his colleague Eyre CJ held that manufacture included:

any new results or principles carried into practice.....new processes in any art producing effects useful to the public..

Abbot CJ gave a similar broad interpretation in 1819 in *R v Wheeler*³:

Something of a corporeal and substantive nature, something that can be made by man from the matters subjected to his art and skill.

However Morton J was to narrow this definition *Re Application by GEC* (1943)⁴ to:

a method or process [that] results in the production (or) improves or restores (or) has the effect of preserving from deterioration a vendible product,

which came to be known as 'Morton's Rules'.

Among other applications of Morton's rules, Lloyd Jacob J was to deny of patentability for a selective herbicide, as the herbicide did not directly improve a vendible product.⁵ Nonetheless it didn't seem right that something as economically useful as a selective herbicide be denied patentability on what could arguably be a technicality. Partially⁶ for this reason the National Research Development Corporation appealed a similar refusal of a patent for a selective herbicide to the High Court in 1959⁷(the 'NRDC' case). In its seminal decision the High Court was to ask:

is this a proper subject matter of letters patent according to the principles which have been developed for the application of s6 of the Statute of Monopoly?⁸

before returning to the pre-Morton interpretation of a 'vendible product':

A process, to fall within the limits of patentability which the statute of monopolies has supplied, must...offer some advantage which is material...a useful art as distinct from a fine art its value to the country is in the field of economic

² (1795) 126 E.R. 651

³ *R v Wheeler* (1819), cited in *National Research Development Corporation v Commissioner of Patents* (1959) 1A IPR 63 at 71.

⁴ *Re Application by GEC* (1942) 60 RPC 1, cited in *National Research Development Corporation v Commissioner of Patents* (1959) 1A IPR 63 at 71.

⁵ *Re Application by Standard Oil Development Development Co* (1951) 68 RPC 114, cited in *National Research Development Corporation v Commissioner of Patents* (1959) 1A IPR 63 at 64.

⁶ The reasons cited in NRDC by the Deputy Commissioner for Patents for refusing the grant of the NRDC patent were that the patent was 'merely the use of known substances, and did not result in a vendible product'.

⁷ *National Research Development Corporation v Commissioner of Patents* (1959) 1A IPR 63

⁸ *Ibid* p 70.

endeavour...The appellants method was...a product because it results in an artificially created state of affair...and the significance of the product is economic⁹

The High Court also refused to deny the patent on grounds that it involved the use of a known chemical:

It is out of the question to hold that, on the face of the document, properly construed, the process...is nothing but a new use of an old substance. ...The process...employs substances...which for the purpose in hand was new, was not obvious, and was to be arrived at only by an exercise of scientific ingenuity¹⁰.

And agreed with Heath J over the intention of the *Statute*:

To allow the use of the prerogative to encourage national development in a field, which already, in 1623, was seen to be excitingly unpredictable.¹¹

NRDC was to set the Australian courts down a path of an increasingly liberal interpretation of 'manufacture'. For example, in *IBM Corporation v Commissioner of Patents* (1991) Burchett J allowed the patentability of curve drawing software, despite it being partially based on a series of mathematical equations which by themselves have traditionally have been denied patentability:

Patent law has distinguished...between the discovery of a principle of science and the making of an invention...The production of an improved curve image is a commercially useful effect.¹²

'Manufacture' was extended by Lockhard J to include treatments of the human body in *Anaesthetic Supplies v Rescare* (1994)¹³:

I see no reason in principle why a method of treatment of the human body is any less a manner of manufacture than a method for ridding crops of weeds as in *NRDC*.

In the same year in *CCOM Pty Ltd v Jeijing Pty Ltd* (1994) the Full Federal Court confirmed the patentability of a system which uses a series of database rules to select Chinese characters in word processing. The primary judge had earlier denied patentability partially because the:

use of rules to organize and process data in a conventional computer are the product of human intellectual activity lying in the fine arts¹⁴

The Full Court thought otherwise:

The *NRDC* case...requires a mode or manner of achieving an end result which is an artificially created state of affairs of utility in the field of economic endeavour. In the present case, a relevant field of economic endeavour is the use of word processing to assemble text in Chinese language characters.¹⁵

⁹ Ibid pp 74-75

¹⁰ Ibid p 69

¹¹ Ibid p 71

¹² 22 IPR 417 at 423-424

¹³ 28 IPR 383 at 400

¹⁴ *CCOM Pty Ltd v Jeijing Pty Ltd* (1993) 27 IPR 557 at 594, cited in *CCOM Pty Ltd v Jeijing Pty Ltd* (1994) 122 ALR 417 at 442

¹⁵ *CCOM Pty Ltd v Jeijing Pty Ltd* (1994) 122 ALR 417 at 452

Along similar lines Heerey J upheld in *Welcome v Catuity* (2001) the patentability of a loyalty program smart card, despite the allegation that the invention was merely a business method:

In my opinion the patent does produce an artificial state of affairs...this result is beneficial in a field of economic endeavour.¹⁶

while distinguishing the patent from 'mere schemes':

what is disclosed..is not a business method, in the sense of a particular method or scheme for carrying on a business...rather the patent is for a method and a device in any event, to the extent that a physically observable effect is required (and I do not accept that this is necessarily so) it is to be found in the writing of new information¹⁷.

Nonetheless there had to be a limit to patentable subject matter somewhere within the ever-broadening concept of 'manufacture', and in *Grant v Commissioner of Patents* (2006) ('*Grant*') the Full Court was to find it. In *Grant* they declined the patentability of a legal scheme to protect assets from creditors due to the absence of a 'physical effect':

A physical effect in the sense of a concrete effect or phenomenon or manifestation or transformation is required¹⁸

The reasoning of the full court in *Grant* has been criticized by Monotti¹⁹, who noted that the 'physical' test had been 'overlooked generally' since *NRDC*, and that the Full Court in *Grant* had overlooked the production of documents by the invention in *Grant* as being a 'physical effect', in contrast to Heerey J's comments in *Welcome v Catuity* regarding the 'writing of new information'. Secondly, Monotti noted that legal affairs are inherently commercial, and hence would lie in a 'field of economic endeavour' as per the *NRDC* decision. It appears that the Full Court, like the Commissioner and the primary judge Branson J, simply disliked the *Grant* application, possibly because the invention appeared to defeat the legitimate rights of creditors, and sought reasons to decline it.

Monotti instead suggested that the decision of Branson J in her honour's earlier rejection²⁰ of the *Grant* patent, which was based upon the balancing of social costs and benefits, might be the stronger reason for the rejection of the *Grant* patent as this referred to the 'public policy' of the *Act*, as supported by s15AA of the *Acts Interpretation Act 1901* (Cth):

A construction that would promote the purpose of an object of the act...shall be preferred.

On hindsight, 'public policy' has been a constant companion of the subject matter test implied by the term 'manufacture'. Just as it was public policy in 1623 to encourage inventions, the High Court appears to have thought it was in the interests of public policy to allow broad subject matter in *NRDC*. Branson J and the Full Court appear to have thought it was against public policy to allow the *Grant* patent. This

¹⁶ 51 IPR 327 at para 127

¹⁷ *Ibid* at para 128

¹⁸ *Grant v Commissioner of Patents* (2006) 234 ALR 230 at para 32.

¹⁹ Monotti, A., 'The Scope of 'Manner of Manufacture' under the *Patents Act 1990* (Cth) after *Grant v Commissioner of Patents*' (2006) *Federal Law Review* 34(3) 461-479.

²⁰ *Grant v Commissioner of Patents* (2006) 67 IPR 1

raises the question of whether the role of the 'manner of manufacture test' within the current *Act* is mainly an abstract 'public policy' test.

Manner of 'New manufacture'

In 1995 the High Court held in *NV Phillips Gloeilampenfabrieken v Mirabella International Pty Ltd* (1995) ('*NV Phillips*') that the *Statute* implied a threshold requirement for novelty and inventive step:

If it is apparent on the face of the specification that the quality of inventiveness necessary for there to be a proper subjects of letters patent under the Statute of Monopolies is absent, one need go no further.²¹

This reasoning was a development of the 1959 *Microcell v Commissioner of Patents*²² in which the High Court rejected the patentability of a reinforced plastics for use in a rocket projector on the grounds that this was a 'new use of a particular known product' as admitted in the 'specification itself'.

Not all agree with this determination, including the minority in the *NV Phillips* judgment:

The explanatory memorandum for the Patents Bill 1990 drew a clear distinction between "manner of new manufacture" and "manner of new manufacture". The latter expression was said to import the case law on subject matter...it being implicit that the question of newness was dealt with bys18(1)(b) of the 1990 Act²³.

There is no doubt that the *NV Phillips* judgement has added an additional complexity to patent law, and one that potentially restrains patent applications from providing an full assessment of the prior art in their specifications.

'Generally inconvenient'

In contrast to the concepts of manufacture and new manufacture, the concept of 'generally inconvenient' has received comparatively little judicial attention. The most quoted example is the 1963 *Rolls Royce Ltd's Application*, where a patent regarding the operation of an aircraft to reduce noise was declined mainly on the grounds of not being a useful art and therefore a manner of manufacture, but where Lloyd Jacob J noted in obiter that this patent would be 'generally inconvenient' to pilots given the complexity of their roles²⁴.

SUBJECT MATTER PATENT LAW IN THE UK

In comparison with Australia, the subject matter test in UK patent law is a lot more prescriptive, with the *Statute* having been removed with the passing of the European Patent Convention²⁵ focused *Patents Act* 1977 (UK). Instead the UK *Patents Act* specifically excludes the patenting of a range of activities, including:

²¹ *NV Phillips Gloeilampenfabrieken v Mirabella International Pty Ltd* (1995) 132 ALR 117 at 122

²² *Microcell v Commissioner of Patents* (1959) 102 CLR 102

²³ Above n21 at 129

²⁴ *Rolls Royce Ltd's Application* [1963] RPC 251 at 255

²⁵ One of the aims of the *Patents Act* 1977 (UK) was to comply with the *European Patent Convention* Articles 52 and 53²⁵, which had a long list of exclusions, including 'discoveries, scientific theoris and mathematical methods,

- a discovery, scientific theory or mathematical method;
- a literary, dramatic, musical or artistic work or any other aesthetic creation whatsoever;
- a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer; the presentation of information;
- an invention of a method of treatment of the human or animal body by surgery or therapy or of diagnosis practiced on the human or animal body
- an invention the commercial exploitation of which would be contrary to public policy or morality²⁶.

while allowing some flexibility in these provisions:

The Secretary of State may by order vary the provisions of above for the purpose of maintaining them in conformity with developments in science and technology [providing that the order is] approved by.... each House of Parliament²⁷.

The Court of Appeal in *Aerotel Ltd v Telco Holdings* [2007] interpreted UK law on patentable subject as having a 'technicality' test²⁸:

(4) Check whether the actual or alleged contribution is actually technical in nature²⁸.

SUBJECT MATTER PATENT LAW IN THE UNITED STATES

US patent law has a liberal and concise law governing patentable subject matter:

35 U.S.C. 101 Inventions patentable - Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.²⁹

The breadth of this law was demonstrated in *Diamond v Chakrabarty* (1980) where the US Supreme Court affirmed the patentability of micro-organisms that break down crude oil. Despite arguments that Congress did not intend plant varieties to be patentable, the Court held that:

Congress intended statutory subject matter to 'include anything under the sun'. This is not to suggest that s101 has no limit...The laws of nature, physical phenomena, and abstract ideas have been held not patentable.³⁰

But ideas in the forms of business methods are patentable, as held in *State St Bank & Trust v Signature Financial Group* (1998)³¹:

Since the 1952 Patent Act, business methods have been, and should have been, subject to the same legal requirements for patentability as applied to any other process or method

aesthetic creations, schemes rules and methods,methods of treatment of the human body, inventions ..which the publication or exploitation would be contrarymorality, plant or animal varieties or processes for (their) production'.

²⁶ *Patents Act 1997* (UK), Section 1,

²⁷ *ibid*, s1.-(5).

²⁸ *Aerotel Ltd v Telco Holdings* [2007] 1 All ER at para 40

²⁹ *Title 35 of the United States Code*

³⁰ *Diamond v Chakrabarty* (1980) 100 S.Ct. 2204 at 2207.

³¹ 149 F.3d 1368

In reality there only appears to be small differences between patentable subject matter in the US and in Australia. However there is a huge difference in the clarity of the laws, with the Australian law seemingly a lot more complex means of expressing the similar concepts in the US law so elegantly defined by Thomas Jefferson back in 1793.

DISCUSSION - IS THERE A NEED FOR A CHANGE?

The retention of the *Statute* as a criteria for patentability within Australian patent law has been reviewed a number of times in recent years.

The majority of reviews have favoured keeping the status quo. In 1984 the Industrial Property Advisory Committee advised that the:

existing concept works quite satisfactorily. It has the advantage of being underpinned by an extensive body of decided case law...it has, in the past, responded a capacity to respond to new developments.³²

A similar position was taken by the Intellectual Property Review Committee (IPRC) in 2000:

Australia has on the whole benefited from the adaptiveness and flexibility that has characterise the method of manufacture test.³³

It was clear that support for the Statute was partially driven by a desire to avoid 'ex-ante' rules governing patentability such as used in the United Kingdom and Europe:

Ex-ante rules can reduce uncertainty as to eligibility...However it is clear from general principle and the European experience that...formulating such ex-ante rules entails high direct costs.

The Australian Council on Intellectual Property also supported the *Statute* in their 2003 report on the patentability of business systems. In particular, they discussed whether limiting business method patents to those within 'a field of technology' or having a 'technical effect' would be preferable, but concluded that:

On balance, any adverse impact from a small number of patents for business systems which are not clearly in a field of technology is not sufficient to justify the costs and level of uncertainty involved in removing their patentability.....and therefore that ...No changes should be made to Australian legislation regarding the issue of patentable subject matter.³⁴

However the Australian Law Reform Council (ALRC) took a different position in their 2004 report on Gene Patenting and Human health:

³² Industrial Property Advisory Committee, *Patents, Innovation and Competition in Australia*, August 1984. Part A - Reviewing the Australian patent system, p 41, <<http://www.acip.gov.au/library/Patents,%20Innovation%20and%20Competition%20in%20Australia.pdf>> at 6 November 2007

³³ Intellectual Property and Competition Review Committee, *Review of Intellectual Property legislation under the Competition Principles Agreement*, September 2000, p 149 ('Ergas Report'), <<http://www.ipaustralia.gov.au/pdfs/ipcr/finalreport.pdf>> at 23 September 2007

³⁴ Australian Council on Intellectual Property, *Report on a Review of the Patenting of Business Systems*, September 2003, pp 35-36 < <http://www.acip.gov.au/library/bsreport.pdf>> at 23 September 2007

it is indeed odd that the key concept of 'manner of manufacture' depends on a provision in a 380 year old English statute that has long since been repealed in the jurisdiction in which it was enacted.

The ALRC recognises the value of maintaining a threshold test for patentable subject matter that is flexible and capable of adapting to developments in technology as they arise. However, it is apparent that the terms of s6 of the Statute of Monopolies 1623 are ambiguous and obscure. In some circumstances, the case law that has evolved around the meaning of this provision offers no further clarification. For example, the grant of letters patent under s6 does not extend to any manner of new manufacture that is 'generally inconvenient'. ... Australian courts and IP Australia have been reluctant to rely on this proviso to deny patent protection to particular inventions. However, it has been suggested that the generally inconvenient proviso could provide a basis for excluding inventions from patentability on ethical or social grounds.³⁵

Or in the words of Orbital³⁶ in their submission to the IPRC review:

reference to "manner of manufacture" and "Statute of Monopolies" is a sign of a cop-out and is unacceptable in this day and age.

The comments on the ALRC are worth returning to, and in the particular the question of setting limits for patentable subject matter. One way of looking at patentable subject matter is to consider that this appears to have two main dimensions:

- Level of technicality
- Subject area

US law patent has no requirements for technicality, the UK law insists on it, while Australian law after *Grant* seems to require a physical effect instead of a level of technicality.

The three countries also differ in how they define the subject matter of invention. The UK (and Europe) have a number of clear legislative limitations, which the US largely lacks³⁷. Australia instead relies on the *Statute*, and its long history of judicial interpretation.

Drafting laws in these areas is not easy, as recognized by Monotti and Ricketson in their submissions to the ALRC report:

the choice of (seemingly outdated) statutory language relating to the test for patentable subject matter 'seems to reflect a general understanding, by both courts and legislatures, that it is impossible to find a form of language that will adequately cover, at any one time, the multifarious and diverse forms in which human inventiveness may manifest itself'³⁸.

While suggesting that the area is largely manageable:

³⁵ Australian Law Reform Commission, *Gene Patenting and Human Health*, Discussion Paper 68 (ALRC report) para 6.55 and 6.56 <<http://www.austlii.edu.au/au/other/alrc/publications/reports/99/>> at 6 November 2007

³⁶ Orbital, Issues Paper Submission 54 for Ergas Report, <<http://www.ipaustralia.gov.au/about/ipcr.shtml>> at 23 September 2007.

³⁷ There is one subject matter exclusion however - The Atomic Energy Act of 1954 excludes the patenting of inventions useful solely in the utilization of special nuclear material or atomic energy in an atomic weapon 42 U.S.C. 2181 (a).

³⁸ ALRC Report, para 6.28

the issue of what is an invention for the purposes of patent law may only become contentious at the margins, as new developments in science and technology occur. Historically, courts have been able to address patentable subject matter by a process of progressive interpretation. Even where legislatures have expressly stated exceptions to patentable subject matter, these provisions have generally been limited in their effect³⁹.

However I beg to differ. These 'margins', where 'new developments in science and technology occur' tend to be among the more valuable and faster growing areas of economic activity in Australia and elsewhere. The margins have included agriculture chemicals, biotechnology, computer software, medical technology, genetic engineering, internet commerce and professional services. It seems strange to question the patentability of new inventions in these areas of new technology where the same questions do not exist for inventions in more traditional economic areas.

Nonetheless there may need to be a limit to patentable subject matter where this clashes with 'public policy', which appears to be the question that the Commissioner of Patents, Branson J and the Full Federal Court all appeared to struggle with in their respective decisions on the *Grant* Patent. The public policy question also appears to underpin the US exclusion on the patentability of atomic weaponry, and the various UK exclusions.

This in turn suggests an effective replacement for the *Statute* in Australian law, namely a clause similar to s1.-(3) of the *Patents Act 1977* (UK):

1.-(3) A patent shall not be granted for an invention the commercial exploitation of which would be contrary to public policy or morality.

This new test would elegantly capture of the patentable subject matter elements of the *Statute* that are not codified in the *Patents Act 1990* (Cth), such as 'contrary to the law', 'generally inconvenient' etc. The test would be consistent with Australia's obligations under the 2005 *Australia – United States Free Trade Agreement*⁴⁰. Such a test should be flexible enough to copy with changes in public policy and morality. The test is also a useful predictor of previous court decisions. If we look at *Grant* for example, this would provided a clear reason to deny its patentability as the invention as outlined would have been contrary to public policy on the repayment of debts.

Perhaps the biggest weakness of the public policy test is that arguably it is replacing one vague clause, with at least a long history of interpretive case law to support it, with another vague clause with no history of case law. The new test may end up being a frequent path of attack in patent revocation actions. However this can be managed through a careful definition of 'public policy' and 'morality' in either the revised law itself, or within its supporting explanatory memorandum. Secondly we should be able to rely on the good judgement of the courts in interpreting this clause. As an example and as noted above, the courts have been slow to invalidate patents on the grounds of being 'generally inconvenient' without very good cause⁴¹. Similarly this issue does not appear to have risen in the UK.

³⁹ ALRC Report, para 6.29

⁴⁰ Article 17.9 of this agreements includes: '1. Each Party shall make patents available for any invention, whether a product or process, in all fields of technology, provided that the invention is new, involves an inventive step, and is capable of industrial application. The Parties confirm that patents shall be available for any new uses or methods of using a known product.....2. Each Party may only exclude from patentability: (a) inventions, the prevention within their territory of the commercial exploitation of which is necessary to protect ordre public or morality.....; and (b) diagnostic, therapeutic, and surgical methods for the treatment of humans and animals.'

⁴¹ *Aktiebiologat Hassle and Another v Alphapharm Pty Ltd* -(1999) 44 IPR 593.

An added bonus of this revised law is that it would remove the ‘threshold’ test for patentability introduced by *NV Phillips*, thereby limiting the tests for novelty and obviousness to those expressed in s7 of the *Act*, as well as removing the ‘physicality’ test that appears to have been re-invented by the Full Court in response to the *Grant* application.

CONCLUSIONS

The retention of the *Statute* is an unnecessary and confusing restraint on the patenting on inventions in new areas of economic activity in Australia. Many of the originally objectives of the *Statute* have been specifically codified in the *Patents Act 1990* (Cth). The remaining objective of limiting patentable subject matter could be better expressed by a new clause in the *Act* excluding the patentability of inventions that are contrary to public policy or morality.