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Reviewing patent policy: an exercise in futility?

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In 1984, Don Lamberton wrote a two-page disclaimer to a review of the Australian patent system, pointing out that there was nothing economic about the review and that it simply pandered to special interest groups. Some 30 years later, the Productivity Commission has been given a shorter time frame (one year) and a broader remit (all intellectual property). This paper reviews the issues addressed in the Industrial Property Advisory Committee (IPAC) review of 1984. Since it was completed, substantially more empirical evidence has become available, while room for policy improvement has been curtailed by international trade treaties. While the Productivity Commission will take a sound economic approach, the breadth of its remit may prevent full appreciation of the critical issues in patent policy. This paper considers the options remaining to the Commission to recommend improvements in the national interest. Whether these will be taken up depends on the priority given to the interests of small but powerful lobby groups.

Introduction

This paper reviews the 1984 study of the Industrial Property Advisory Committee (IPAC) into Australia's patent system, and considers how the current Productivity Commission inquiry might compare. This raises questions about the chances of evidence-based policy prevailing in an environment of strong and well-funded industry interests. Don Lamberton was the sole economist on IPAC. In this role, he organised the collection of empirical data about the operation of Australia's patent system. But as a single economist, he was outgunned by a committee weighted heavily towards those whose livelihood depended on the patent system. As he noted in his dissent to the committee's report, a 'good opportunity to adjust an ancient institution to the current needs of the Australian economy has been missed'. Don considered that the committee had never really understood the concept of social cost.

In 2015, the Productivity Commission was commissioned to review Australia's 'intellectual property arrangements'. The Commission is a statutory body and 'required to consider the benefits and costs of policies to the community as a whole, rather than focussing on the effects on particular sectors.' (Productivity Commission, 2010, p.264). The Commission is thus required to focus on how an issue impacts on Australia's net welfare – the focus that Don was unable to get his patent colleagues on IPAC to understand. The Commission is thus potentially well placed to deliver the kinds of outcomes Don had hoped for in the early 1980s. Offsetting the advantages of a deep understanding of the net national welfare approach of economists, the Commission has only one year to cover all forms of intellectual property.

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Further, the treaties which Australia has ratified since 1984, particularly the Agreement on Trade Related Intellectual Property Rights (TRIPS) and the Australia–United States free trade agreement (AUSFTA) radically constrain the options the Commission may consider. They are not free, as Don was, to recommend that the patent term be reduced to 10 years.

The IPAC review

In 1979, the then minister for productivity, Ian Macphee, asked IPAC:

> to study, from the viewpoint of the Australian national interest, whether the Australian patent system as presently operating sufficiently advances Australia's technological development and whether there are ways in which it may be made to do so more effectively. (IPAC, 1984)

With two exceptions, membership of the seven-man committee was dominated by those whose income derived from use of the patent system.[1] The two independent members were the head of the department of productivity, and Professor Donald M. Lamberton, the sole economist. When the committee reported, five years later, to the then minister for science and technology, Barry Jones, the chairman reported that this was 'the first review of the Australian patent system from a predominantly economic perspective.'

Such a billing for the nature of the report sits uncomfortably with the two-page dissenting statement by IPAC's economist, Don Lamberton. This dissenting statement is reproduced in full in this special issue (Macdonald, 2016). Briefly, Don considered that:

> This report does not live up to its claim to have adopted an economic perspective and to have applied economic criteria. It has not consistently applied economic criteria; it has not made full use of available empirical evidence; and the concept of social cost, so frequently mentioned, has never really been fully grasped. (IPAC, 1984, p.79)

This outcome was particularly unfortunate as, during its five years of deliberations, Don was able to organise a number of small research projects providing real data about how the patent system was operating. The committee also organised a number of seminars, with invited experts from Australia and overseas.

IPAC's terms of reference were broad, and from the report it is clear the committee felt unconstrained in what it discussed. Indeed, it considered whether Australia might do away with patents altogether (p.15),[2] and whether patents were desirable for pharmaceutical products (pp.40–41). In considering whether to retain a patent system, IPAC examined the evidence from one of the studies Don organised. This concludes that there is 'little room for doubt that the benefit/cost [margin] of the patent system in Australia is negative, or at the very best, in balance' (Mandeville *et al.*, 1982, p.213).

Against the background of Australia's industry structure, particularly the very small role of elaborately transformed manufactures, IPAC agreed that Australia's patent system had:

> contributed little to widening the range of, improving, or cheapening the goods available, improving productive capacity or stimulating export market development. Generally, the history and characteristics of the Australian economy … do not provide

> encouragement for the view that there are substantial benefits attributable to the operation of the Australian patent system, while actual and potential costs can be more easily identified. (IPAC, 1984, p.17)

However, the consequences of withdrawal from the international patent system were unknown and, IPAC thought, could be severe. Further, IPAC received no submissions recommending this.[3] IPAC's first recommendation was therefore 'that Australia continue to operate a patent system and to participate in the international patent system' (p.18). Indeed, of IPAC's 46 recommendations, 13 were 'no change' recommendations.

Several empirical studies were undertaken as input to IPAC's study.[4] Led by Don, the team of economists from the University of Queensland consisted of Stuart Macdonald, Tom Mandeville and Jean Bishop. The resulting reports include:

- Australian use of patents – only 306 Australian enterprises lodged patent applications in the period 1972–1977. This was just 26% of the 1169 firms undertaking research and development (R&D; Lamberton and Mandeville, 1980).
- Patent use (from a sample of 1200 with 60% response rate) finding the main use of patent data was to check on infringement (43, 52 and 57% of large, medium and small firms, respectively). Also discussed was the difficulty of using patent data for economic analysis as the international patent classification (IPC) had been developed to suit the administrative needs of patent examiners (Mandeville *et al.*, 1981).
- A survey of the 108 registered patent attorneys' clients, focusing on licensing issues and use of patent information (Mandeville and Bishop, 1982).
- A study of individual inventors (Macdonald, 1982).
- A survey of members of the institute of engineers. Despite a low response rate, there were 911 useable responses from engineers with some experience of the patent system and 1829 from those without any such experience (Mandeville, 1982a). Those with some experience of the patent system were more likely to report that patents had either a marginal or a considerable impact on R&D.
- A survey of 1978 Australian patent applicants, taken later than the other surveys as the Australian Bureau of Statistics (ABS) had originally been approached to carry out this survey. The ABS refused (at ministerial level) to do this, so the survey was undertaken by the patent office. Although the response rate (32%) was low, the survey contained some useful data on restrictive practices in technology licensing (Mandeville, 1982b).

Issues discussed

The IPAC report discussed a wide range of issues. There was careful consideration of the interaction between patent law and competition law (pp.22–27), and of exhaustion of rights (parallel importing). At the time of IPAC's study, 'local working' of patents – as opposed to 'exploitation by importation' – was a hot topic of international debate, largely because of pressure from low-income countries hoping to industrialise. From the first Australian patent legislation in 1903, this requirement in Australia had been specified as satisfying 'the reasonable requirements of the people' rather than local working. Indeed, given that the statute was inherited from the UK, it is not surprising that the 'local working' requirement was expressed in this

way as the UK was a major supplier to Australia of more elaborately transformed manufactures. IPAC was surprised that the consequent penalty of compulsory licensing was so rarely applied. IPAC did recognise that local working could be inefficient and unsuitable in some circumstances. However, with its strong focus on importing leading-edge technology and building local industrial capacity, the committee also saw benefits in local working, and concluded:

> compulsory licensing and forfeiture should have the purpose in Australia of providing a mechanism by which a patentee can be prevented from misusing a patent to preclude local working which is economically desirable, in circumstances where, but for the patent, it could and would occur. (IPAC, 1984, p.29)

Again, the recommendation was a 'no change' one – here, no change to Sections 108 to 110 of the then patent act.

The report spent some time on the issues of patent length (at that time 16 years) and patentable subject matter. Both discussions are interesting and show how much potential for reform has been eliminated in the 30 years since IPAC reported. Two members of the committee favoured a change to a 10-year maximum term. It is clear from his dissenting report that one of these was Don. It seems probable that the other was the head of the then department of productivity, as all other members had a direct interest in longer and broader patents. The majority recommended no change, though there was unanimity in recommending that extensions to patent term be abolished. As has often been noted:

> it strains credulity to contemplate that research or innovation investment decisions, made early in the life of the invention, could ever be materially influenced by the prospective availability of an extension after expiration of the initial 16 year term to compensate for inadequate remuneration, particularly when allowance is made for discounting. (IPAC, 1984, p.39)

During the Uruguay Round of world trade negotiations, Australia played a role as a 'friend of intellectual property'.[5] As such, Australia actively assisted in making the TRIPS agreement a compulsory treaty for any General Agreement on Tariffs and Trade (GATT) signatory. TRIPS, of course, mandates a 20-year patent term. Australia's position as a friend of intellectual property is hard to understand as the IPAC report and the supporting economic studies were published around the time the Uruguay Round commenced. It was quite clear from these materials that Australia's national interest lay in a shorter term and narrower patentable subject matter (see Penrose, 1951).

IPAC noted the tendency of courts to interpret the concept of 'manner of new manufacture' expansively – though, interestingly, it did not refer to the High Court's 1959 NRDC decision, which has had a very strong impact on Australia's broadened patent system.[6] At that stage, perhaps, its impact was less noticeable than it is today. IPAC specifically considered whether the patent system should be available for software and even business methods. Noting that 'hitherto the computer software industry in Australia has been developing rapidly without relying on patent protection' (p.41), the committee did not consider that explicit extension of patents to this field was necessary. Nor, however, did it consider that a specific exclusion should be written in, preferring the definition based on section 6 of the English *Statute of Monopolies 1623*.

As to pharmaceuticals and other fine chemicals, the majority considered there was insufficient empirical evidence to determine whether excluding these from patentability 'would positively stimulate the development of an indigenous manufacturing industry' (p.40). Again, there were two dissenters from this view. The two dissenters noted China's express exclusions from patentability and thought Australia should consider similar exclusions as being beneficial to the development of the local chemical industry. Had this position been followed, Australia might have developed a world-class generics medicines industry.

IPAC discussed at length the issue of standard patents as opposed to petty patents, and the relationship between them. In this context, it also took up the issues of novelty and inventiveness. Discussion focused on what existing knowledge would be taken into account in determining novelty and inventiveness. For standard patents, IPAC recommended a global existing knowledge standard, but for petty patents only what was known or used in Australia. The committee recommended against overturning existing legal doctrines which prevented combining more than one existing knowledge document (mosaicing), but did agree that, for inventiveness, it should be possible to combine the one document with common general knowledge. As a consequence, the 1990 patent act contained perhaps the most prescriptive statutory rules on just how novelty and inventiveness were to be judged (Summerfield, 2015).

It is always a surprise to economists how much existing knowledge is excised when determining whether an 'invention' passes standards of novelty and inventiveness. IPAC noted that most high-income countries had already moved to a global standard in defining existing knowledge; Australia did not make this move until 2001, as efforts to do so in 1990 were defeated in the Senate.

The 1980 3M decision, which overturned the synergy doctrine, was not mentioned in the IPAC report.[7] The synergy doctrine stated that a combination of known things could not be deemed sufficiently inventive for a patent unless there was a surprising outcome or the new combination produced an outcome that was greater than the sum of the parts. Abandoning this doctrine has substantially lowered the standard for patentability in Australia. The replacement policy is that a combination of known things is not obvious unless such a combination has been suggested in a written text. Indeed, in the US, this replacement policy (adopted in 1984) is known as the suggestion test (see Lunney, 2004, p.21). As yet, there has been no move to re-institute the synergy test in Australia, although it still applies in Europe.

IPAC considered a wide range of other issues – whether particular decisions should rest with the patent office, the supreme court or the federal court; provisional applications; what to do if employees' inventive outputs were not taken up by their employers; search and examination, including modified examination; provision of search results; challenges and opposition; litigation insurance; contributory infringement and international institutions. The 46 recommendations were a mixed bag. Of the 33 that involved changes, seven were rejected in whole or in part and six were accepted in principle.

Two recommendations accepted in principle were for the collection and analysis of better data on the operation of the patent system. One of these (that patents be coded by industry as well as according to the international patent classification (IPC)) was effectively implemented in 2014, a mere 30 years after the recommendation was made.[8] The other (that the patent office collect data on how patents are used) has yet to be implemented. In 2014, the Australian patent office granted 19,304 patents (IP Australia, 2015). It has never collected any data on the impact of these 'powerful exclusionary rights'.[9]

The appropriability surveys

IPAC had available to it the results of work undertaken in the UK in 1973 and in Canada in 1971, as well as the studies initiated by Don. In particular, the UK study showed that the R&D effort of most companies would be little different in a world without patents, except in specific industries: primarily pharmaceuticals and some other areas of finished chemicals (Taylor and Silberston, 1973). This strongly suggested that, in general, the market failure which the patent system is meant to correct did not exist.

These results were confirmed in the subsequent large-scale studies of appropriability in the US, the 1984 Yale survey and the 1994 Carnegie Mellon survey, published after IPAC had completed its review (Levin *et al.*, 1987; Cohen *et al.*, 2000). These large-scale surveys confirmed that patents were needed only in a few technology areas – those where the current state of technology was highly codified and where copying was relatively fast and cheap. In most fields of industrial innovation, however, these conditions were not present – know-how was important and copying was neither fast nor cheap (Mansfield *et al.*, 1981; Levin *et al.*, 1987). Other important empirical studies that were not available as input to IPAC were Dutfield's detailed study of the life sciences industries with its careful analysis of the role of a more nuanced patent system in Germany's global leadership of the chemical and pharmaceutical industries (Dutfield, 2003), and Moser's analysis of the inventions at nineteenth-century world trade fairs, showing that the lack of a patent system did not inhibit the quantum of inventiveness, though it did affect the fields where it took place (Moser, 2005). Most recently, three empirical studies have measured the welfare impact of pharmaceutical product patents (Chaudhuri *et al.*, 2006; Branstetter *et al.*, 2011; Dutta, 2011). Each finds that the producer gain from such patents is only 12% to 15% of the consumer loss. As with tariffs, it appears that patents are very inefficient from an economic perspective. Subsidies would be far cheaper and would not reduce access to medicines.

Richard Nelson, one of the masters of industrial innovation, has commented on the fact that, despite the many empirical studies demonstrating the increasingly questionable benefit of patent policy, the patent system has simply grown wider and stronger (Mazzoleni and Nelson, 1998a, 1998b). In the light of the personal interests of IPAC members, one can wonder whether even this large array of empirical evidence would have led to outcomes that would have focused better on Australia's national interest. At least some of these data became available during the Uruguay Round negotitations – but clearly had no impact on the decisions made.

IPAC did have available to it the greater understanding of the role of interest groups in determining public policy developed by Olson (1971). Indeed, one of the invited overseas speakers at an IPAC seminar, an economist from Yale, warned:

> There are general principles which are of the highest importance, that markets should be left to operate freely whenever possible, that *one must look further afield than those involved in and regulating an industry* when canvassing opinions regarding changes in public policy, and finally, *if a market environment is created which can be abused or manipulated then such a market will be abused and manipulated*. (Beggs, 1981, p.44 emphasis added)

When a review is undertaken by industry insiders – 'stakeholders' as they are called these days – what hope national benefit analysis?[10] This is the major area where the current inquiry by the Productivity Commission has a distinct advantage. The Commission is required by the statute which governs it to focus on the national interest, it is staffed largely by economists, and in general it subjects allegations and theories to empirical scrutiny.

The 2015–2016 Productivity Commission inquiry

The Commission has a template for dealing with the references it receives. Early in the programme, it publishes an issues paper to generate discussion and debate. In doing this, it calls for submissions and often holds public consultations. It then issues a draft report, which is followed by a further opportunity for submissions and often additional public consultations. A final report is then provided to government. It is at this stage that the heaviest lobbying is likely, though often this will also have taken place at the stage of developing the terms of reference and commissioning the inquiry.

In regard to the current inquiry, the terms of reference refer to a variety of previous reviews, asking the Commission to have regard to these.[11] Not included in this list is the pharmaceutical patent review, a strongly evidence-based inquiry that took place in 2012–2013 (Harris *et al.*, 2013) and, possibly because of a change of government, has not yet had serious government consideration. As yet it is early days in the Commision's work on this inquiry.[12] Given the breadth of what has to be done, and the very short inquiry period available – just 12 months – the Commission is trying to take a high-level, principles-focused approach. While this is understandable, one potentially grave error this creates is the constant use of the term 'intellectual property.'

Is 'intellectual property' a useful analytical concept?

'Intellectual property' (IP) is a relatively recent phrase and refers to a wide variety of things. These start with all forms of ideas, inventions and creations, and also incorporate a number of 'intellectual property rights' (IPRs). Indeed, IP is often used when the context makes it clear that the reference is to IPRs. IPRs consist of many widely different instruments, mostly involving government intervention in the market.[13] The earliest market intervention was patents for inventions – until the French Revolution these were known as 'patent privileges'. In one of the earliest documented cases of re-framing, the French revolutionaries re-cast these into their language of human rights as they wanted to retain these privileges (Machlup and Penrose, 1950, pp.16–17).

Discussing these quite different privileges under the single IPR heading presents a challenge – they apply to quite different things and they limit competition in quite different ways. While modern technologies have radically changed the cost and ease of copying the written word, one cannot then shift ground to inventions and conclude that copying a technological invention is either fast or cheap. The Productivity Commission will need to take considerable care not to make such slips if it chooses to discuss IP arrangements at a high level of abstraction.

Effectiveness and efficiency

In its issues paper, the Commission has identified four critical parameters against which it plans to assess intellectual property arrangements (Productivity Commission, 2015). Two of these – effectiveness and efficiency – lie at the heart of much economic analysis. Under the effectiveness heading, the Commission asks whether patent policy is effective in achieving its goal of providing incentives for inventions that would otherwise not take place. As noted above, there is now substantial evidence that the answer to this question is 'Only sometimes'. Further, under efficiency, the Commission asks whether there is an appropriate balance between incentives for invention and the consequent restrictions on subsequent innovation. As the team charged with reviewing pharmaceutical patents in Australia commented: 'While the patent system must be strong to be effective, it should also be parsimonious, avoiding restrictions on trade and innovation that are not necessary for it to deliver incentives to innovate' (Harris *et al*., 2013, p.vi).

The efficiency criterion thus asks whether the desired outcome is achieved at the lowest possible cost. Again, for patents, there is considerable evidence about how the patent system actually works and how it falls far short of the desirable standard, regularly granting patents for things that are not inventions (see, for example, Jaffe and Lerner, 2004; Bessen and Meurer, 2008; Moir, 2013a, 2013b). When patents are granted for inventions that would have occurred anyway, this creates unnecessary restrictions on competition. And when patents are granted for things that contribute no net positive spillover benefits, their grant is welfare-reducing.

The empirical evidence on efficiency and effectiveness calls into question article 27 of the TRIPS agreement. Article 27 requires that all technologies be treated equally under patent law and that the criteria of novelty, inventive step and industrial application be used to determine patentability. But the evidence suggests that the key criteria for a parsimonious patent system would be the size of the R&D investment compared with the length of time in the market before the first follower enters with a competing product. Further, the evidence suggests that it would be far more efficient – in the administrative sense – for the patent system to be limited to those technologies where there is little uncodified knowledge in new products or processes.

If a WTO member wants to re-design its patent system to maximise economic efficiency, the member has to work around these TRIPS restrictions. Most of the weight of ensuring that patents are not granted for inventions that would occur without a patent will fall on the 'inventive step' criterion – how inventive something must be to be granted a patent. The inventiveness criterion can also act as a proxy for the second key reason for intervening in markets with the patent privilege. Where inventions embody new knowledge, this spills over to other firms, creating a social value that is greater then the private value. In fact, there is no rationale for providing any incentive to induce an invention unless there are such positive spillover benefits from it. A high inventiveness requirement makes it more likely there will be positive spillovers from a patented invention.

Unfortunately, post-TRIPS bilateral treaties have further limited the room for governments to improve the economic efficiency of their patent systems by setting into concrete the current very low inventiveness standard for patents. The footnote to article 18:37 of the proposed Trans-Pacific Partnership (TPP) agreement

requires: 'In determinations regarding inventive step, or non-obviousness, each party shall consider whether the claimed invention *would have been obvious* to a person skilled, or having ordinary skill in the art, having regard to the prior art' (emphasis added).[14]

As a result, the Commission will be severely constrained in recommending improvements to the efficiency and effectiveness of the patent system. This reverse test does not ask what new knowledge has been contributed and thus avoids the central issue in patent policy – that spillover benefits should exceed static efficiency losses. Indeed, focusing on 'not inventive' rather than 'inventive enough' leads to the grant of many patents that contribute no new knowledge (Moir, 2013b).

Adaptability and accountability

The third and fourth principles the Commission has proposed for its work have never been properly addressed for the patent system (or, indeed, for other IPRs, such as copyrights). Most patent law is made by judges or trade negotiators, and thus has not – or at least not since the English debates of the late nineteenth century – been subject to robust public debate. One glaring omission from patent statutes is the lack of any statement as to the objectives of patent policy. It seems likely that this omission underlies the strong prediliction of patent offices and courts to grant patents for things that, to the ordinary person, seem quite obvious. In Australia, the courts have contributed actively to widening patentable subject matter and reducing the inventiveness requirement to virtually zero.[15] This flexibility – extending the reach of the patent system and ignoring negative impacts on consumers and other innovating firms – is not the kind of flexibility that is desirable for balanced patent policy.

The purpose of the patent system is to induce desirable inventions by granting patents for induced inventions which have positive spillover benefits. TRIPS has a clear statement requiring balance in all the IPRs in that international treaty. With the addition of the proviso that there be a net spillovers contribution, article 7 is readily adaptable to become an objective for patent policy. The patent community (patent attorneys, lawyers and administrators) is isolated and self-reinforcing (Thambisetty, 2007). Drahos also comments on the shared assumptions, understandings, conventions and values of the patent community, and suggests that the community has 'more influence on the direction and content of patent policy than legislatures' (Drahos, 1999, pp.441–42). Drahos has also documented the strong priority given by patent offices to actual and potential rights holders (Drahos, 2010). Members of the patent community do not appear to understand the importance of competition in driving innovation and productivity increase. If patent offices were re-located to the government portfolios charged with implementing competition policy, their pro-patent values would be challenged, and some degree of balance could be returned to the system. This would not reduce flexibility and adaptability, but would ensure that adaptations were more balanced.

There are good data on how the patent system works. These data derive from studies in the fields of industrial economics and innovation. They are despite, not because of, the patent system. Indeed, the patent system is notorious for providing only data that is useful to users of the patent system, not for policy analysis. In some cases the patent community has actively opposed the collection of data and

independent analysis of the impact of the patent system. There are several examples from the US. The US Federal Trade Commission recommendation most prominently rejected by the intellectual property owners' association (dominated by patent lawyers from large firms) is to 'expand consideration of economic learning and competition policy concerns in patent law decisionmaking' (Bessen and Meurer, 2008, pp.293–94). The White House Office of Science and Technology Policy commissioned RAND to undertake a study of software patent quality and business effects, but 'it was suspended at the request of a US multinational company concerned that the study would undercut efforts to secure greater international acceptance of software patents' (Kahin, 2003).

The priority is for data on how and when patents are used. It does seem extraordinary that patent offices hand out thousands of patents each year, yet have never gathered any data on how these are used. Indeed, because patents are a 'powerful exclusionary right', it would be reasonable to require that patent holders advise patent offices when the use of these rights impacts on any other party. An obligation to advise of any legal use of a patent would add substantially to what is currently known about patent trespass. We know that the cases litigated through to a court decision are only the tip of an iceberg. But how big is the iceberg and what are the costs for other innovating companies? As only a small proportion of innovating firms use patents,[16] innovation surveys need to gather data on whether patents owned by other entities impact on these non-patenting innovating firms. To date, these surveys have asked very little about the use or impact of patents – it is time they provided better data on this critical policy issue.

What hope for reform now?

In conclusion, then, there remain real opportunities for the Commission to make recommendations that would change the impact of the patent system from its current net negative situation to a real positive. The important elements of such policy changes would be a tightening of patentable subject matter to restrict it to genuine fields of technology; a substantial increase in the inventiveness requirement; action to open the patent community to the importance of competition, consumers and follow-on innovators in national innovation, and a far greater degree of accountability. The patent system is complex for a reason – so that ordinary citizens and politicians will not notice the substantial opportunities for rent-seekers. But at its heart is a simple bargain – a quite lengthy monopoly in exchange for induced inventions which contribute positive spillover benefits.

Whether the Australian government will take advantage of the Commission's report to deliver real reform in patent policy is a moot question. In 1984, Don Lamberton noted that a 'good opportunity to adjust an ancient institution to the current needs of the Australian economy has been missed'. In 2016, the Australian government has the opportunity to make at least some adjustments to patent policy. In view of the increasing limitations placed by trade treaties on the sovereignty of governments to determine patent policy in their own national interest, it is urgent that this opportunity not be missed again. If it is missed, it will be because the interests of a few large overseas firms and a relatively small number of Australian patent attorneys outweigh the national interest.

Notes

1. The committee was chaired by the manager of patenting and licensing at BHP, with the Commissioner of Patents holding the position of deputy chair. The senior officer from the commercial group of the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and two patent attorneys were also members. When the Commissioner of Patents left, in early 1984, to join the Melbourne branch of international law firm Baker & McKenzie, he remained a member of the committee and the new commissioner, Pat Smith, became an *ex officio* member.
2. All citations that simply give page numbers are to the IPAC report (IPAC, 1984).
3. IPAC received 90 submissions. Three organisations and one individual lodged three submissions each, 17 organisations and two individuals lodged two submissions each, and 32 organisations and eight individuals lodged a single submission each. Of the 90 submissions, 31 were from chemical or pharmaceutical companies and associations, and 15 from patent attorney or law associations, each including a number of overseas associations or companies. Given the small number of submissions and the particular interests represented, it is unsurprising that no one recommended abolishing the patent system.
4. In addition, IPAC commissioned a major legal report on various aspects of the patent system, and a study of outward licensing by Australian companies undertaken by the licensing executives society.
5. As far as I can establish, the then patent office was allowed to develop and run this position unchallenged by any other part of government or by the public. Because of the breadth of issues considered in the Uruguay Round, TRIPS issues were effectively delegated to the Australian patent office.
6. *National Research Development Corporation v. Commissioner of Patents* ('NRDC') (1959) 102 CLR. 252 (NRDC).
7. *Minnesota Mining and Manufacturing v. Beiersdorf (Australia)* (1980) 144 CLR 253 (3M).
8. In fact, coding an invention by industry is complex. The only country that has ever done this appears to be Canada and Canada has abandoned this practice. In the new Australian Intellectual Property Government Open Data (IPGOD) database, the patent *applicant* is coded by one-digit industry (Man, 2014).
9. The phrase 'powerful exclusive rights' is from the Explanatory Memorandum to the Intellectual Property Laws Amendment (Raising the Bar) Bill 2011 at p.42.
10. Certainly, by the early 2000s, stakeholder advisors considered it was inappropriate to require evidence to extend the patent system to business methods as such evidence had not been required for any of the previous extensions (ACIP, 2003, p.33).
11. The terms of reference, the issues paper and submissions received can all be viewed at http://www.pc.gov.au/inquiries/current/intellectual-property#report.
12. This paper was written in February 2016 after the Issues Paper was published but before the Draft Report became available.
13. The major exception being trade secrets.
14. For the final text of the IP chapter of the proposed TPP agreement, see http://dfat.gov.au/trade/agreements/tpp/official-documents/Documents/18-intellectual-property.pdf
15. The recent High Court decision that DNA and cDNA are unpatentable (*D'Arcy v Myriad Genetics Inc.* [2015] HCA 35) and the full federal court decisions that business methods are unpatentable (*Research Affiliates LLC v Commissioner of Patents* [2014] FCAFC 150 and *Commissioner of Patents v RPL Central Pty Ltd* [2015] FCAFC 177) are exceptions.
16. The number of R&D-performing firms using patents has fallen sharply from 26% in the period 1972–1977. By 2012–2013, only 4% of innovating firms were using patents (Australian Bureau of Statistics, 2014).

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