

# PATENTS AND INNOVATION IN THE COMMONWEALTH

by

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1983 brings some diverse and interesting legal centenaries, amongst them that of the Paris Convention on Industrial Property. This paper offers some reflections on the manner in which industrial property laws have developed within the British Commonwealth fold during the last hundred years and upon the contribution of the common law approach to international collaboration in the field. I shall concentrate attention upon the most basic of the industrial property rights — patents for inventions — and leave largely to one side the registration of designs, the protection of trade marks and other similar rights. Nor have I room to enter the neighbouring field of copyright, save in dealing with some important new applications of artistic copyright to industrially produced articles. I shall be considering developments within a “Commonwealth” of legal tradition rather than of current political affiliation. My concern is with an inheritance of legislative models from Westminster and of judicial precedents and practices from the Strand.

## National Patents and the International Convention

1883 was not a date of birth for any type of industrial property. The right to exclude others from exploitation of particular ideas in industry and commerce, which is the essential characteristic of the whole genre, is very much a matter of national economic policy embodied in municipal law. The Paris Convention is better regarded as a coming-of-age. Its main sponsors were States which had, by the late nineteenth century, begun the process of industrialisation and had chosen to introduce national patent systems. Those systems had survived an unsteady and argumentative adolescence. The signing of the Convention marked a mature commitment to a particular technique for fostering innovation within a capitalist economy.<sup>1</sup>

The political economy which had built its faith upon market competition and the freeing of trade from mercantilist constraints had

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<sup>1</sup> For the nineteenth-century development of patent systems and the emergence of the Paris Convention, see Machlup and Penrose, “The Patent Controversy in the Nineteenth Century” (1950) 10 J Econ Hist 1; Schiff, *Industrialization Without National Patents* (1971); Ladas, *The International Protection of Industrial Property* (1930); Penrose, *The Economics of the International Patent System* (1951).

inevitably questioned the need to encourage technical innovation through the medium of private monopolies over the latest, most significant technical developments. Advocates of patents claimed that only by offering the haven of protection from competition would an inventor and his collaborators be induced to risk the cost of initial research and subsequent reduction to practice. They underscored the value of the system by claiming that it offered an inducement to publish new inventions early and that the inventor merited the reward of a temporary chance to prevent others from entering the market with the same idea; after all, the market, rather than any State subsidy, was still to determine the extent of the reward.

These were justifications which, in the middle years of the nineteenth century, had commanded far from universal conviction. There were those who held that competition must itself foster an unceasing search for novelty and that a market headstart was all the incentive needed. The inventor was considered to take as much from the collective stock of prior knowledge as he gave by his individual advance and so to have no sufficient case for the social reward of a "property" right. Under the influence of these ideas and the pressure of domestic industries, Holland abandoned her patent system in 1869; and the Swiss resisted pressures to introduce one.

The 1870's brought significant shifts in economic perspective. The sudden crises of commerce and finance sent the United States, France and Germany back to protection in matters of foreign trade. New surges in industrial development increased national determination to catch up and get ahead and this told in favour of special incentives. The 1877 law of the new German Empire, which gave it a single patent system, epitomised the new attitude. Likewise the Paris Convention was the act chiefly of States sufficiently confident of their own industrial skills to feel the need of the Convention's most basic guarantee, the principle of national treatment. This obliges each contracting State to grant nationals of other contracting States the same protection as it offers to its own nationals;<sup>2</sup> preference for one's own at home is eschewed in order to secure them equal protection abroad. This carried the implication (which had to be spelled out in later revisions) that the protection offered in any one State to a national of another was independent of that which he had acquired, or could acquire, in his own State.<sup>3</sup> Nor did the Convention impose a minimum level of protection which must be provided, for instance by prescribing a minimum duration for the patent term. Indeed it was not a requirement that a contracting State should provide protection of a particular kind at all; both the Netherlands and Switzerland were original signatories even though they lacked patent systems. The strangeness of this is only apparent. The majority of countries which grant patents are not primarily exporters of technology but the opposite. For them, the prime role of a patent system is to act as a lure for foreign technology. By allowing membership of the Paris Convention to non-patenting countries, it was hoped to draw them into

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2 Paris Convention on Industrial Property, Paris, 1883, art 2. After its original signing in Paris in 1883 the Convention was revised at Rome (1886), Madrid (1890-1891), Brussels (1899-1900), Washington (1911), The Hague (1925), London (1934), Lisbon (1957) and Stockholm (1967).

3 See now the Stockholm text, art 4 *bis* (1).

the net of States which acknowledged the system as an advantage in acquiring technology from abroad, if not for the moment at home.

The Convention contained two other main provisions which, so far as patent systems were concerned, improved the position of the growing number of enterprises that operated on an international scale. Under the system of priority dating, a filing in any one State would allow a filing in other States within a prescribed period<sup>4</sup> to carry the date of the first: the earlier foreign filing would no longer jeopardise the novelty of the invention so far as the later applications were concerned. This is the provision for which the Convention is best known today, since it is constantly employed in day-to-day patenting business. In addition to this, the Convention from the outset imposed certain curbs on the enthusiasm of countries which saw patents as a means of getting foreign technology established within their own borders. It ceased to be permissible for a contracting State to provide for revocation of a patent if articles made in accordance with it were imported into the territory from another Convention country. But the Convention explicitly permitted less draconian sanctions which were aimed at securing local working.<sup>5</sup> The further refinement of this last provision has been the subject of contentious debate at later revision meetings. As we shall see, it is one of the most divisive issues in all the current controversies between North and South over inequalities of resources and wealth.<sup>6</sup>

### The British Experience of Patents

Britain was one of the earliest examples of a country which turned to the patent monopoly device as a means of attracting more advanced technologies, in her case those of France and the Netherlands.<sup>7</sup> The system that evolved in the seventeenth century was so clumsy and little used that it can scarcely be regarded as a direct cause of the "take-off" into industrialisation that came a century later. But its survival through the vicissitudes of Stuart politics is at least a symbol of the deep determination to compete and outstrip which was to lead to that astounding development. As the British found themselves the industrial and commercial leaders of the world and became colonisers of its continents, their model of a patent system was exported to the dependent territories.<sup>8</sup> One special technique was used to assist the process in the lesser territories: a patent could be acquired there merely by registering the equivalent British patent for the invention.

Behind this lay the interests of imperial industries. The benefits that a colony could hope to derive from the monopoly protection of inventions could lie only in the introduction of novel products and eventually the establishment of local industries related to them. At home in 1852, the British system was stripped of its Gothic encrustations and in sparer

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4 Originally six months, subsequently a year: Paris Convention on Industrial Property, art 4A.

5 Ibid, art 5A.

6 See Penrose, *supra* n 1, ch 7.

7 As well as patents, the original Convention covered industrial designs and models, trade marks and commercial names. Its scope is now somewhat expanded to include, in particular, the repression of unfair competition: art 1(2).

8 See Fox, *Monopolies and Patents* (1947); Boehm, *The British Patent System: I. Administration* (1967).

administrative form it survived the attacks of the mid-century anti-patent lobby. As the largest colonies grew towards independence, the idea of invention patents became a well-established phenomenon. Before the Second World War, Dominion status did not lead to any change of course: rather, in the new federations — Canada, Australia, South Africa — patenting was strengthened by instituting a unified federal system in place of the separate systems of the former colonies. Their former colonial status had brought them automatically within the Paris Convention's ambit and after independence they joined in their own right.<sup>9</sup>

In the field of copyright, British ideas were at this period dominant to the extent that a system of Imperial copyright was applied throughout the Empire in unified form, the Dominions enacting their own version of the British Copyright Act 1911. The result was a special system of mutual recognition. An equivalent degree of uniformity arose where British patents were made registrable in a colony, but otherwise it was not so complete. In some instances the British model was varied in significant ways. This was particularly true of Canada, whose Patents Act 1869, which immediately followed the grant of independence, came under the influence of the United States system at a number of points.<sup>10</sup> In the Zuid-Afrikaansche Republiek and the Orange Free State there were idiosyncratic developments.<sup>11</sup> But even in these cases, the strongest influence over time was the British. In particular, in the kernel of substantive law, where the rules were largely given form by judicial decision, the considerable respect paid to the House of Lords, Court of Appeal and High Court ensured that the links continued to remain very firm. Even latterly, when Commonwealth courts have begun to show their independence of view in patent questions, the decisions take as their starting point the lines of precedent set by English judges. This has been so when the Commonwealth court is seeking a way of liberalising a line of constraining decisions in a fashion that is likely to be welcome,<sup>12</sup> where it is seeking to overturn a practice that has grown out of a traditional assumption,<sup>13</sup> and even where it is departing from a much litigated and well-settled approach.<sup>14</sup>

Given the strength of such ties it is worth listing the main characteristics of this British tradition of patent law, particularly as it developed from the late nineteenth century up to its final expression in the British Act of 1949. It is an approach from which Britain herself has now departed significantly with the European-influenced Act of 1977. To this I shall return later.

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9 The same occurred with New Zealand and the Irish Republic and has mostly been true of countries granted their independence since 1945. But not in the case of India, Pakistan, Bangladesh, Malaysia or Singapore. At the beginning of 1983 there were 79 Convention members, of which 13 were Commonwealth or former British territories.

10 See Fox, *Canadian Patent Law and Practice* (4th edn 1969) 5-11.

11 See Gerntholtz, *Principles of South African Patent Law* (1971) 6-9.

12 As in the High Court of Australia's now classic decision, *NRDC's Application* [1961] RPC 134, which allowed as an "invention" the application of a known chemical to a novel agricultural use (weedkilling).

13 As in the decisions of the Israel and New Zealand Supreme Courts allowing methods of medical treatment within the fold of the patent system: *Wellcome Foundation v Plantex* [1974] RPC 514; *Wellcome Foundation's (Hitching) Application* [1980] RPC 305.

14 As in the High Court of Australia's refusal, in judging inventive step, to take account of anything other than common general knowledge: *Minnesota Mining v Beiersdorf (Australia) Ltd* (1980) 54 ALJR 254; 29 ALR 29.

The most fundamental mark upon these characteristics came from the British experience between 1852 and 1902 of a patent system to which application was cheap and purely formal. This had the result that many granted patents were of uncertain validity and the issue could be tested only in court proceedings of legendary length and cost. The aggressive might exploit the situation to considerable advantage, leaving the mild but deserving either paying on a bad patent or afraid to enforce a good one.

Accordingly, the following rules and practices evolved:

- (1) The right granted by a patent was defined strictly by the claims of the patent specification. A patent would be infringed by manufacture, sale or use within the scope of the claims, as properly construed. In particular, those who merely contributed parts towards the construction of a machine patented as a combination were not infringers, in the absence of a conspiracy or misleading inducement. As if by counterbalance, however, once an article fell within a patent claim, the patentee was in a position to impose conditions on all subsequent sales or uses even where the goods emanated from him originally. There would be an implied licence to use and sell freely but it could be countermanded by express provisions to the contrary that would bind even third parties with notice.<sup>15</sup>
- (2) Before a patent could be granted, it would be examined as of course by technically qualified officers to determine whether at least the very invention claimed had been previously published in patent specifications granted for the same territory over the previous fifty years.<sup>16</sup> In addition, third parties might oppose the grant before the Patent Office on broader grounds, not only of anticipation through publication or use in the territory but also, in the clearest cases, of obviousness, and also for lack of sufficient description and certain other reasons; these nevertheless did not encompass every ground upon which validity might be attacked after grant in court proceedings. But even in the case of those ultimate grounds, the questions of novelty and non-obviousness fell to be judged (at the priority date of the patent) only against what was known or used within the territory.<sup>17</sup>
- (3) A patentee would be able to secure the grant of an interlocutory injunction against an alleged infringer who denied its validity only in unusual cases, where the patent had previously been found valid or where it had long been respected by the industry concerned.<sup>18</sup>

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15 See Blanco White, *Patents for Inventions and the Protection of Industrial Designs* (4th edn 1974) para 10-104.

16 The expense and difficulty of providing a corps of qualified examiners has proved such that it has not been borne even in a country as advanced as South Africa. Hence, for instance, the longevity of the British system of registration for subordinate territories and the recent introduction of the preliminary international examination under the Patent Co-operation Treaty of 1970.

17 Blanco White, *supra* n 15, ch 4, s 1, 2.

18 An approach from which the British have to some extent departed since *American Cyanamid Co v Ethicon Ltd* [1975] AC 396. Not surprisingly jurisdictions for which the patent system has different implications have treated this precedent with suspicion: *Firth v Polyglas* [1977] RPC 213 (HC Aust); *Beecham Group v BM Group* [1977] RPC 220 (SC South Africa); *Canadian Javelin v Sparling* (1982) 59 CPR (2d) 146; cf *Nelson Burns v Grantham Industries* (1982) 59 CPR (2d) 117.

- (4) With time, the chemical and pharmaceutical industries came to enjoy the protection of patents for novel substances, including substances which were selections from classes or sub-classes (a point to which I return later). There were pressures to expand the range of inventions for which patents might be granted which were induced by scientific and technological advances, particularly in bio-chemistry, pharmaceuticals, agricultural production and computers. In the 1960's, particularly, the courts found ways of justifying step-by-step expansion to meet many of the particular calls, with results of considerable commercial significance.<sup>19</sup>
- (5) Patents could be renewed annually up to a maximum of sixteen years from the filing date of the complete specification. Exceptionally, this period might be extended upon proof of war loss or inadequate commercial remuneration.<sup>20</sup> No converse mechanism existed for curtailing the duration of a very successful patent. Compulsory licences could, however, be granted almost automatically for food and drug patents and for others upon various grounds concerned with failure to exploit or to manufacture within the country. In addition, the Government had statutory licence powers under the provisions for Crown use.<sup>21</sup>

#### The Commonwealth since 1945

In the post-war emancipations of the new Commonwealth, the inherited tradition survived to some extent. Nigeria is an interesting case in point, given her potential, in terms of size and resources, to industrialise. After independence, the colonial system of registration survived until 1970, when a new Patent Ordinance introduced a simple, unsophisticated system in which it was easy to acquire a grant but the rights correspondingly would be of uncertain validity.<sup>22</sup>

In other newly-independent countries however, the predominance, in the list of local patentees, of the world's leading multi-nationals in chemicals, pharmaceuticals and heavy machinery roused high suspicion. The patent was conceived to be one of the most effective means of sapping meagre national resources by the extraction of monopoly profits. The local patent was thought to contribute little or nothing as an incentive to invention and subsequent development which would take place elsewhere through the competition for industrialised markets. In many cases the patent did not lead to the establishment of local industry since demand was met by importation. Within the common law fold, the most dramatic consequences of such hostility occurred in India. In 1950 a Patent Enquiry Committee raised some rather modest doubts about the future of the Indian system in the course of considering whether the Indian Act of 1911 should be modernised on the lines of the British Act of 1949.<sup>23</sup> The compulsory licensing provisions of the earlier Act were

19 Blanco White, *supra* n 15, paras 1-202, 1-203. The principal catalyst was provided by the High Court of Australia (*supra* n 12).

20 Blanco White, *supra* n 15, ch 6.

21 *Ibid*, ch 11.

22 See [1971] ASCL 246-248.

23 India, Patents Enquiry Committee (Bakshi Tek Chand, Chairman), *Interim Report* (1949); *Final Report* (1950).

strengthened by an amending Act of 1950,<sup>24</sup> but a more general revision bill in 1953 failed because of deeper doubts. The future of patents in India was put to a one-man Committee of Inquiry, Rajagopala Ayyangar J, whose thoughtful report of 1959 led eventually to legislation in 1970. While this did not render India a patent-free country, the economic potential of Indian patents was very seriously curbed.

The central focus of the antagonism concerned the burgeoning chemical and micro-biological technology which was so dramatically transforming the prospects for food production and health care. In a number of the earlier patent systems, of which the German was a leading example, protection had been refused to novel substances because these would include things with a staple value to life itself. Only a novel process for producing a substance could be patented, the invention lying in the process rather than the substance. The British tradition, however, was less restrictive: the question had not been authoritatively decided when in 1919 an amending Act established that substances made by a particular process were patentable.<sup>25</sup> It was enough that the substance itself was novel and not obvious; the process did not have to be. Hence a monopoly in the substance could in effect be achieved whenever separate claims were included for the substance as made by each of the possible processes.<sup>26</sup> In the sensitive field of products for use as food or medicine, the countervailing public interest was accommodated by providing for compulsory licences almost as of right.

As the pharmaceutical and agro-chemical industries grew they had an obvious interest to argue for patents simply for new products: the nub of their case has been that their research and development costs are often very great indeed, yet imitation of their products which eventually succeed is often straightforward and cheap. In the United Kingdom substance patents were often in effect available already and it was not difficult to take the further step in the 1949 Act. In the 1970's the chemical industry lobby has succeeded in securing equivalent provisions in the European Patent Convention and so for much of Western Europe.<sup>27</sup>

The Indian Act of 1970 takes the opposite course. Patents may not be granted at all for food, drugs or chemicals as such, but only for methods and processes for their manufacture and then only for a severely limited period, and subject after three years from sealing to an endorsement "licences of right" at a maximum royalty of 4 per cent of the ex-factory sale price. For patents generally, the provisions on compulsory licensing and revocation for non-exploitation in India have been somewhat broadened and those concerned with use by government very considerably; it is no longer any infringement for any government department or agency, central or regional, to manufacture or import for its own use.<sup>28</sup>

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24 Supplemented in 1952 with a provision for the compulsory licensing of food and medicine patents equivalent to the special British provision in that field; *infra* n 25.

25 Patents Amendment Act 1919 (UK) s 11. The Canadian version of this, adopted in 1923, is still operational: RSC 1952 c 203, s 41(1).

26 See: UK, Swan Committee, *Report Cmnd 7206* (1947) paras 92-101.

27 Subject to reservations during a transitional period: Van Empel, *The Granting of European Patents* (1975) paras 136-139.

28 See Pai, "The New Patent Law: Some Salient Features (India)" 54 JPOS 126 (1972).

In sum these amount to very substantial constrictions upon the type of patent right that has been developed and generally respected by industrialised nations in their own interests and by mutual compact within the Paris Convention. Since Independence India has refused to become a contracting party to the Convention, preferring to protect her own inventors abroad by limited bi-lateral and multi-lateral treaties. What the country has done to confine its domestic system stands as an attractive example to all those developing nations in the Group of 77 which are Paris Convention countries and which are now pressing for revision in the Convention to accommodate their interests. Nonetheless these countries retain the hope that an exclusive right, even if limited in scope, will attract foreign technology and indeed make it worthwhile for multi-nationals to set up local production enterprises. They also continue to hope that a patent system will, at least in the long term, have the incentive effect on local research and development for which it has been so often vaunted by its protagonists.

The new wave of criticism has not however been confined to developing countries in the United Nations sense. Within the Commonwealth, the real divide continues to be that between the United Kingdom and all other members, none of whom yet belong to the club of large industrial producers and exporters. Certainly, in the "old" Commonwealth group, the patent system has come in for increasingly sharp re-appraisal. Canada and Australia, for instance, remain countries where the giant enterprises of the multi-national scene are the most prominent recipients of patents of likely major value. It has fallen principally to economists in these two places, as the professional sceptics in such matters, to ask whether their countries secure a reasonably balanced return from their monopoly grant systems.

In Canada the questioning began in the mid-1960's, stirred by the formidable presence of United States industry and finance in most sectors of the Canadian economy. A series of background studies and surveys related this general position to the granting of patents;<sup>29</sup> in 1967 Canada proved to be the country with the third highest number of patents in force in the world,<sup>30</sup> but of these only some 5 per cent went to Canadian nationals.<sup>31</sup> From this was built up a picture of how far patents were actually used for industrial production in Canada: the average was 15 per cent. According to the final report of the Economic Council of Canada:

"the impression which strongly emerges from the statistics and from the more detailed evidence of international price discrimination against Canada, flowing from such sources as successive official inquiries into drug prices, is that Canada may well be bearing more than her fair share of the price effect. Looking at patents as an international system, there is a presumption that we are carrying too large a proportion of the costs of the system

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29 The principal contributions were Firestone, *Economic Implications of Patents* (1972) and the special studies by Hindley and Wilson referred to in the Report; infra n 32.

30 One matter in which Canada followed the United States (see supra n 10) was in not requiring periodic renewals of a patent: hence the high total at any one time.

31 Some 70 per cent went to US nationals.



in relation to the proportion of the benefits that we receive.”<sup>32</sup>

The Council did not advocate total abandonment of the patent system, but it called for a series of substantial reforms, the most drastic of which would convert the exclusive patent right after five years of its term into a compulsory licensing system at a royalty rate to be specified in advance by statute and capable of variation only at the patentee's behest upon the ground (likely to be complicated to prove) that he is not recovering in Canada that country's fair contribution to the total costs of the innovation process surrounding the protected invention. The effect intended was a dramatic reduction in the monopoly potential of the patent grant: a draft bill produced for the Department of Consumer and Corporate Affairs in 1976 proposed the same objective by somewhat simpler means.<sup>33</sup> The proposals were obviously offensive to those with large patenting interests in the country<sup>34</sup> and they have not made further headway.

Australia is now following Canada down the course of detached re-assessment. There was a similar attempt to discover how far Australia and its industries benefit from patenting; as in Canada the verdict overall is discouraging. The “economic benefits of the patent system to the innovation process in Australia are not only small, but extremely subtle”; a cause, in other words, so intertwined with others as not to be separately measureable. The alleged disadvantages of the system are catalogued: its “make-work” effect distracts resources from more useful activities; restrictive practices in licensing follow which dampen domestic research and development; resources are misallocated and consumers pay higher prices; the significance of invention in the innovative process as a whole is overblown; patent information does not contribute substantially to the general dissemination of new technical information, being consulted mainly in the process of patenting or in order to avoid potential infringement.<sup>35</sup> The investigators recommend (though in rather tentative and imprecise terms) stricter examination, and a reduction in the patent term and scope of monopoly.<sup>36</sup> Yet clearly they feel such unease at the thought of going it alone in reducing the effectiveness of a system whose international implications are so evident, that their strongest plea is for reconsideration of the whole at an international level, notably in the revision conferences of the Paris Convention.

### Revising the Convention

The Paris Convention does indeed enter its centenary year with that weighty problem bowing down its agenda. Its latest revision is largely given over to the despairing demands of the “South” for a new economic order in which, as a crucial element, an effective and helpful transfer of

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32 Economic Council of Canada, *Report on Intellectual and Industrial Property* (1971) 81.

33 The term of Canadian patents is currently 17 years from *grant*; it was proposed to reduce it to 9 years from *priority date*, extendable for up to 5 years provided that the patentee is working the invention on a commercial scale in Canada during that period.

34 The Draft Bill and its accompanying Working Paper were given a hostile reception, for instance by the Patent and Trademark Institute of Canada: see the Institute's Bulletin, Series 7, vol 44, 886.

35 Mandeville, Lamberton and Bishop, *Economic Effects of the Australian Patent System* (1982) 211f.

36 *Ibid* 213.

technology will occur on favourable terms, allowing poor and undeveloped nations to build an independent industrial sector. It was plain during the preparative stages (which began in 1975) that the Revision Conference would provide a focus for discontents which might be tied only loosely to the aims and achievements of the "international" patent system.<sup>37</sup> The first session of the Conference itself (in 1980) debated for a month the procedure of revision and ended with an uneasy agreement (not accepted by the USA) in favour of qualified majority voting. The second session (Nairobi, 1981) spent a further month reaching an informal agreement of sorts on compulsory licences and revocation for non-exploitation. This would concede special powers to developing countries (a) to grant exclusive compulsory licences where the patent right has been abused, one element of this abuse consisting of failure to exploit or insufficient exploitation; and (b) when five years have elapsed from grant of a patent, to revoke it upon the ground that a compulsory licence would not secure sufficient industrial exploitation. In the course of the argument about these proposals six countries from the group of developed nations maintained strongly that the division of the world into developing and developed did not reflect the impact of patent systems upon national economies and that the Convention should not in principle admit exceptions for developing countries of the UN Group of 77. In the light of what has been already said, it will come as no surprise to learn that three of these six were Australia, Canada and New Zealand. Their ambivalence is only one of the factors which has made the concessions of Nairobi look fragile; the possibility of further compromise is to be debated at a special meeting.<sup>38</sup> In the meantime the Conference has moved on to other sensitive topics, such as according recognition to the socialist systems of inventors' certificates and, outside the field of inventions, to appellations of origin. It is clear at least that the revision continues to face a long and painful labour.

All this questioning and debate arises only because the ultimate fear is not of dominance by greedy foreigners but of being left out of the world's industrial future, whatever it may be. Were things otherwise all save the most advanced and richest would not be bothering over systems of monopoly grant. This is the hard fact which gives patenting its resilience against successive attacks. In over a century's growth, it has become hardy indeed. During the 1950's and 1960's, patent systems around the world enjoyed a success, measured in terms of demand for protection, on a scale previously unknown. The problem of handling so many applications became a major concern for which answers, not only national but also international, had to be sought. As far as concerns the wholly international, the United States became the principal promoter of the Patent Cooperation Treaty, which was signed in 1970 and put into effect in 1978. This aims to make the early stages of applying for a patent in a number of countries simpler (by providing for a single applications) and more efficient (by providing for an international search by one of the seven International Search Authorities and, optionally, an international preliminary examination). The subsequent stages leading to grant are then handled in the patent offices of the member states for

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37 For the course of events, see eg Baeumer in Francon (ed), *Vers une érosion du droit des brevets d'invention* (1982) 7-20.

38 This meeting has since taken place without result; the matter is referred to a further session in late 1983 or 1984; see [1982] EIPR D-246, D-248; [1983] EIPR, February.

which a patent is sought. If the Patent Cooperation Treaty has so far had only indifferent success in the numbers of applications that it has attracted, it is quite otherwise with the largest collaboration on a regional scale: the European Patent Convention of 1973, under which the European Patent Office in Munich has operated, also since 1978.

This provides a new route by which to secure patents (mostly in common form) for the West European States collaborating in the venture. The old national routes remain open, though some, notably here the British, have substantially revised their procedures in order to provide a parallel to the EPC procedure. The substantive patent laws of these territories have also been revised so as to provide a patent term of twenty years from filing and standardised grounds upon which to judge validity. This of course takes Britain and the Irish Republic out of the older Commonwealth mould, but not in a way that causes severe disruption of continuity. The new system increases the likelihood that any patent granted will ultimately be upheld and it provides industry with early publication of applications before they are officially examined. These are widely thought to be improvements which could be taken up in revisions of the British model elsewhere: the new influence was to be seen in the Canadian proposals of 1976 and is present in the South African Patents Act 1978.

As the competitive race for new technology careers onwards, it must be more likely than not that patent systems will survive the limited attacks upon them and emerge in somewhat better shape for the ever uncertain future. But, particularly in those countries which seek hardest to trim their monopoly potential to the barest level that will still attract the purveyors of invention, there is likely to be increasing interest in other legal forms of protection. This is a factor which is ignored in the less percipient attacks on the patent system, partly because the law concerned operates without preliminary official machinery for the creation of rights. Legal systems vary in the extent to which they are willing to offer alternatives. Accordingly we may return once more to the British Commonwealth tradition in order briefly to examine two: the protection of technical information that is received only under wrappings of confidence; and the protection of the shape and appearance of industrial products through the artistic copyright in their design.

### The Protection of Technical Secrets

Within the English-derived systems, the protection of trade secrets, together with other types of confidential information, has been a distinctive product of the symbiosis of common law and equity. Since an injunction was the remedy which presented the best hope of containing the spread of the information, it was to the Court of Chancery that plaintiffs necessarily turned.<sup>39</sup> There the equitable predilection for large moral generalisations came to their aid: undertakings to preserve confidence were to be respected and to that end the court would lend its aid. The jurisdiction was clearly established by the mid-nineteenth

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<sup>39</sup> For an extensive account of the development and present content of the law, see: UK, Law Commission, *Breach of Confidence*, Report no 110 (1981). It contains copious reference to previous writings on the subject.

century, and although (or perhaps because) it fell under no very obvious larger head, it survived.

In the post-Judicature Act world, common lawyers played with the possibility of confining the circumstances in which confidence could arise to those that could be expressed in terms of contract.<sup>40</sup> Lord Greene MR was one who began this course of pruning, only to abandon it by recognising that there were circumstances outside the bounds of contractual relationship in which obligations of confidence should arise: for instance when contractual negotiations had broken down before being concluded or when the relationship was one of status prescribed by statute.<sup>41</sup> In a highly individual manner, the English courts have managed to by-pass many of the difficulties which can be seen arising in legal systems unconnected with the common law: restriction of liability to contractual relationships, the refusal to grant injunctive relief even where the misappropriation of confidential information is deemed a tort, and so on. Latterly the ideas developed in England have been acknowledged and illuminated in detail by a number of careful decisions of Commonwealth courts.<sup>42</sup> There are still uncertainties: the insistence that the nub of liability is the assumption of an obligation of confidence has certainly allowed information of most varied kinds to be treated under one rubric, without the need to define, for instance, what is an industrial or a commercial trade secret; but it has created uncertainty over the position of the information spy, for he is closer to being a thief than a trickster.<sup>43</sup> Likewise it has proved difficult to settle the extent to which an indirect recipient of the information should be obliged to respect the confidential obligation: must anyone to whom it eventually passes respect the circumstances of confidence once he is informed of their existence? Or may at least a bona fide purchaser for value receive the preferential treatment which will be accorded him in certain sales of goods? These and a number of other doubts remain, leading the English Law Commission recently to recommend the codification and elaboration of this form of liability, classifying it clearly as tort and defining the circumstances in which a wrong is committed to cover not only breach of confidence but various forms of surreptitious acquisition.<sup>44</sup>

It is not to be anticipated that in Britain this Report will be transformed into legislation at an early stage. The subject has an impact on the media which is likely to make any attempt to put through legislation both complicated and chancy. As far as technical secrets are concerned its enactment would in any case bring improvements and clarifications only at the margins. The Report proposes no fundamental alteration of the rule that most often inhibits a successful claim in this area, the principle that obligations of confidence cannot be imposed on an employee in respect of information that is "no more than an enhancement of the personal knowledge, skill or experience used by him in the exercise of his calling".<sup>45</sup> This high point in the individualistic

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40 For this approach, see especially Turner, *The Law of Trade Secrets* (1962 and Supplement).

41 *Saltman v Campbell* (1948) 65 RPC 203; cf *Vokes v Heather* (1945) 62 RPC 135; and see *Seager v Copydex Ltd* [1967] RPC 349.

42 Reviewed by Vaver, "Trade Secrets — A Commonwealth Perspective" (1979) 1 EIPR 301.

43 See especially, *Malone v Commissioner of Police* [1979] Ch 344.

44 *Supra* n 39.

45 Clause 7(b) Breach of Confidence Bill Draft, *ibid* 200.

firmament of the judiciary has a double impact: it forms the "public policy" basis upon which to criticise unduly wide contractual clauses against leaving employment and setting up in competition and against disclosing or using pieces of confidential information; and it limits the impact of the general equity against breaches of confidence whether or not they are within the scope of contractual undertakings.

The manner in which this aspect of the law is interpreted and applied may well embody a fair balance in ensuring the employee's freedom to take up new opportunities as he sees fit to his own economic advantage and personal satisfaction; but it offers little certainty to the employer who chooses to rely upon the loyalty and discretion of his workforce to ensure that his competitors do not obtain his ideas. Suppose, first of all, that the employer really has a discrete, novel and unique idea that he tries to protect in this way. In theory it is open to him to do so. Commonwealth courts have never shown much enthusiasm for the argument that such ideas ought to be patented if they are to be protected, on the ground that the patent system aims to secure publication of the idea in return, and protection of secrecy contradicts this objective.<sup>46</sup> The fact that there is no patent is more likely to express itself in a concern over whether there is really any subject-matter warranting protection. This may be a particularly difficult issue for a plaintiff at the all-important interlocutory stage. If an injunction until trial cannot then be obtained the issue may not be worth pursuing. Yet he may be very reluctant to disclose full details of his ideas in litigation at what is in commercial terms the "head-start" stage.

As one moves down the scale into the realm of incidental tricks of the trade, one comes ever closer to the danger of a positive finding that all the defendant ex-employee ever received was mere personal knowledge, skill and experience. The law on the subject was made more complex by Cross J's well-known judgment in *Printers & Finishers v Holloway*<sup>47</sup> which divided the world into three. At one pole lies information which "can fairly be regarded as a separate part of the employee's stock of knowledge which a man of ordinary honesty and intelligence would recognise to be property of his old employer and not his own to do what he likes with" (examples: a chemical formula or a list of customers deliberately memorised); this must be kept in confidence. At the other pole is general experience, skill and knowledge, which cannot even found a valid express covenant not to compete. In the middle lie features or expedients which are peculiar to the employer's production process although neither the employee nor a man of reasonable intelligence and honesty would appreciate this; an employer may take an express covenant not to compete in order to cover such a case but he is not protected under the general law of confidence.

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46 In the United States this argument rose to the level of constitutional controversy. The Supreme Court in the end held that trade secrets protection was not limited to unpatentable information: *Kewanee Oil Co v Bicorn Corp et al* 416 US 470 (1974). In the United Kingdom, note the suggestion that breach of trade secret may only found a monetary claim and not give rise to an injunction: Megarry J, *Coco v AN Clark Ltd* [1969] RPC 41, 50.

47 [1965] RPC 239; applied, for instance, in *United Sterling v Felton* [1974] RPC 162; *Harvey Tiling v Rodomac* [1977] RPC 399 (SC of South Africa); *Yates v Electrofoils* [1976] FSR 345.

It follows from this that an employer is always well-advised to incorporate whatever explicit terms seem justifiable in the employment contracts of research and technical staff who are to come in contact with secret production processes and other sorts of information that are looked on by the employer as part of his know-how. But it is often difficult in advance to know how particular pieces of information will be classified under the three heads or to know whether an express covenant will survive a "public policy" attack.

Much industrial development today takes the form of a core concept, which will be patented as an invention, surrounded by a penumbra of more or less substantial know-how — partly technical, partly managerial, partly commercial — which is protected only as confidential information. If the central role of the patent in this web of constraints is to be markedly diminished, those who develop a new technical mesh will look hard at the prospect of preserving the corpus simply as a trade secret. There must inevitably be a distorting effect, since only certain information within the range of "invention" (in the patent sense) is by its nature capable of being kept confidential. Courts within the Commonwealth net, moreover, may feel constrained to depart from their balanced and thus somewhat unpredictable, view of the scope of the law. Instead, they may adjust the scales in favour of plaintiffs and therefore against the liberty of employees to take up new opportunities. How far this would happen is an open question. But it is not therefore to be ignored in assessing the consequences of truncating patent protection, and it must rank as a danger. It must never be forgotten that the freedom of employees' movement is one of the most effective instruments for transmitting technical information that is truly valuable. Some would say it is the most important of all.

### Artistic Copyright in Shape and Appearance

The other direction in which those searching for industrial protection beyond patents may turn is towards artistic copyright. As with trade secrets, the potential range is more limited than that covered by most patent systems. Artistic copyright can have no impact, for instance, upon chemical substances as such or upon manufacturing processes, but only upon articles with a definite pattern or shape. But within this sphere, if the applicability of copyright is admitted in principle, its potential is considerable. Protection, it is true, will turn upon proof of copying. Yet, on the other hand, copyright will arise upon creation of the artistic work and will not depend upon any state grant.<sup>48</sup> Nor will it in most cases depend upon the degree of artistic skill reaching any substantial level of creativity in any sense equivalent to the inventive step required for a patent; this is in particular true of copyright in a drawing.<sup>49</sup>

Traditionally in the British conception, it was thought that artistic copyright had no impact upon industrial production. But recent startling developments in the United Kingdom have completely upset this

48 Of the British-derived systems, only that of the United States has retained formalities of registration and notice as essential to acquisition or at least enforcement of copyright.

49 For this and other complex technical issues see, eg Cornish, *Intellectual Property: Patents, Copyright, Trademarks and Allied Rights* (1981) 328-331, 411-422; Laddie, Prescott, Vitoria, *The Modern Law of Copyright* (1980) paras. 3.21-3.25; 3.50-3.75.

supposition. Moreover, the peculiar way in which British law has developed makes it possible to compare the prospect of a similar bouleversement in other Commonwealth countries even when they have not adopted any version of the Design Copyright Act 1968, which is the latest legislative contribution on the subject in the United Kingdom.

Copyright was long thought to have no role as a form of *industrial* property in the British ordering of affairs because of a specific provision of the Copyright Act of 1911. This statute was Britain's first to draw together copyright protection in a single source embracing literary, dramatic, musical and artistic works. As such, it became the basis of a law virtually in common form that ran the length of the Empire. In it, for the first time, copyright was defined to include the sole right of reproduction of the work "in any material form". In the case of artistic works this was taken in principle to include the reproduction of two-dimensional works in three dimensions, and vice versa. It followed that a copyright drawing of an article would be infringed by making the article itself without permission, whether the drawing was copied either directly or indirectly from an intermediate article.<sup>50</sup> At least this was the consequence of applying general conceptions of infringement as the British knew them; they were by no means necessarily part of the copyright regimes of other countries.

But the industrial production of articles which this would affect was already subject to the patent and registered design systems, the one to protect technical advances, the other novel ideas for the appearance of articles which concerned their appeal to the eye and not their function. So section 22 was included in the 1911 Act in order to prevent artistic copyright from becoming a wide-ranging tertium quid against copying in the field of mass-produced goods. The choice was a deliberate one, well in tune with the continuing preference for freedom of competition. But when it came to drafting, the basic resolve seemed to waiver at two points. Copyright might affect the industrial applications of an artistic work either if it was not intended initially for industrial production, or if, for some reason, it was not capable of being registered as a design. The first of these points was established only by case-law taken to the House of Lords. The second was plainer in the statutory text itself. But its much more significant implications were not appreciated for many years. The most important of these was that if a design was exclusively functional, or not novel, it kept its copyright, because no corresponding design could be registered. There are a number of countries within the Commonwealth whose laws are still couched in the terms of section 22.<sup>51</sup> There are others, including Britain herself, where works created before a certain date still fall within its terms.<sup>52</sup>

The distinction between designs intended and not intended for industrial use was considered invidious<sup>53</sup> and in the British Copyright Act 1956 a new approach to the same basic objective was adopted. No longer was copyright excluded if the intention in making the work was to make a design for industrial production. Instead, by section 10, the factor

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50 See *King Features Syndicate Inc v Kleeman Ltd* [1941] AC 417.

51 Eg Canada, Malaysia, Singapore and, on this point, the Irish Republic (see *Allibert v O'Connor* [1982] FSR 317).

52 For Britain, see Copyright Act 1956 (UK) sch 7, para 8.

53 UK, Report of the Copyright Committee, *Gregory Report* Cmd 8662 (1952) paras 227-250.

excluding copyright from the industrial sphere became use of the design upon goods marketed by the copyright owner or with his consent. The precise way in which this approach applied depended upon whether a corresponding design had been registered and upon the period of time since the first authorised application of the work to mass-produced goods.<sup>54</sup> It was also expressly stated that the limitation did not apply to artistic works embodied in goods that fell within the traditional sphere of copyright, such as book jackets, greeting cards, maps, trade advertisements and the like.<sup>55</sup> But nothing was said expressly about what was to happen if an artistic work could not become the subject of a registrable design because it lacked novelty or it represented a shape dictated solely by function. It was left to the courts to provide an answer. In *Dorling v Honnor Marine*<sup>56</sup> the Court of Appeal was firmly of the opinion that Parliament could not have intended an unregistrable design to be left without any protection against copying onto industrial articles; accordingly artistic copyright must apply to the design they bear, for its normal term of the artist's life and fifty years thereafter.

Even so, the revolutionary potential of this view was not appreciated by most sectors of industry.<sup>57</sup> Some, indeed, such as jewellery, furniture and toy manufacturers, pressed for legislative amendment particularly to deal with designs of recurrent subjects (such as human and animal figures), because their novelty, on an objective assessment, was often in doubt.

When this legislation came, it originated in a private member's bill that was given very limited Government time and so had to be brief. The Design Copyright Act 1968 amended section 10 of the 1956 Act by allowing industrial applications of a drawing or other copyrighted design to remain the subject of copyright for fifteen years from first authorised marketing, when previously that aspect of copyright had ceased upon first authorised marketing. What then of the Court of Appeal's view that designs of functional articles kept full copyright because no corresponding design could be registered? Graham J soon afterwards accepted that *Dorling v Honnor* continued to apply.<sup>58</sup> But later the Department Committee chaired by Whitford J considered the result "bizarre" and, in his judicial capacity, that learned judge has now held that the 1968 amending Act eliminated the distinction between registrable and unregistrable designs and imposed its limited period of fifteen years' copyright in the industrial sphere on both types of work.<sup>59</sup>

That such an argument could arise is one indication of how ill-thought-out and how little debated was the 1968 amendment. But when that is said, it remains a blemish that is essentially secondary. The same difficulty does not arise over the reforms of the New Zealand and South African Copyright Acts,<sup>60</sup> since these have introduced full artistic copyright for all copyright works in their application as designs to

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54 For details, see the works cited in n 49.

55 *Supra* n 52 s 10(4). The full list is in the Designs Rules 1949 (UK) r 26.

56 [1965] Ch 1.

57 Nor by: UK, Report of the Departmental Committee on Industrial Designs, *Johnston Report* Cmnd 1808 (1962).

58 *Sifam v Sangamo* [1973] RPC 899.

59 *Hoover v Hulme* [1982] FSR 565; UK, Committee to Consider the Law on Copyright and Designs (Whitford, Chairman), *Report* Cmnd 6732 (1977) para 96.

60 Of 1962 and 1978 respectively.



articles. The basic issue of whether copyright should be available to prevent the copying of elements in the design of industrial products is a complex one which is now being debated in a number of fora within the Commonwealth. Considerable support has emerged for the view that design elements that are added to products in order to improve their "appeal to the eye" (in some sense) should be protected in this way for a limited period. In Britain the Whitford Committee was unanimously in favour of this for a 25-year period from first exploitation.<sup>61</sup> In Australia, the Franki Committee considered that there should be copyright at least in two-dimensional applications of designs to industrial products.<sup>62</sup> But there is much less agreement on the position of designs for purely functional articles. The Whitford Committee was divided with a majority in favour of the continuance of copyright for a limited period; but the present British Government is against this.<sup>63</sup> The Franki Committee was likewise against its introduction into Australia, preferring the steps of expanding the scope of design registration and of introducing a petty patent system offering inventions a limited patent term without examination.<sup>64</sup>

But the present position in other Commonwealth countries goes much further, since it allows the appearance of objects, which assume their shape purely for functional reasons and have no eye appeal, to be the subject of artistic copyright, either for a specially limited period or for the full duration of that form of copyright. In many circumstances, of course, the protection that this confers falls well short of an exclusive right in a technical idea. The protection is only against copying the elements represented in the copyright drawing. If the real idea that one competitor is seeking to take from another can be the subject of a new design giving a different result in terms of shape and configuration, there will likely be no infringement of copyright. But still copyright often forms a clear basis for protection when there is nothing else available, or when any other course (such as suing on a patent) is hazardous and expensive.<sup>65</sup>

Perhaps the most pressing issue is whether protection of artistic copyright should extend to the designs for spare parts for machines. If this is allowed, the purchaser of any durable object of some complexity will likely find himself tied to the original manufacturer for supplies of spares and a special opportunity for monopolistic pricing may arise. The case may be particularly acute in a country which has most of its consumer and industrial durables imported or manufactured by a foreign concern. In the case of a machine patented as a combination, the provision of spare parts may be undertaken by any one, provided that repair of the whole does not amount in substance to a re-making of the

61 *Supra* n 59, ch 3 esp para 181.

62 Designs Law Review Committee (1973) paras 269-271.

63 Report, *supra* n 59, paras 181f; Green Paper, Reform of the Law Relating to Copyright, Designs and Performers' Protection, Cmnd 8302 (1981) ch 1.

64 *Supra* n 62, paras 251-268; and the accompanying Report relating to Utility Models. Both these proposed changes have now been effected: Designs Amendment Act 1981; Patents Amendment Act 1979.

65 Foreigners who acquire copyright in, for instance, the United Kingdom by virtue of a connection with a country that is a member of either the Berne Copyright Convention or the Universal Copyright Convention, will be accorded artistic copyright in their drawings under British law to the same extent as United Kingdom nationals. The fact that their own copyright law is more limited in scope is not relevant.

machine.<sup>66</sup> But copyright will attach to the design of each part separately, so the same logic cannot apply. The only route to a comparable result would lie through the notion of an implied licence of the copyright to make parts for repairs; and in Britain this has been held not to assist an unlicensed spare parts manufacturer upon the oddly restricted view of a licence that it requires a tri-partite transaction.<sup>67</sup> Even if this is unacceptable, the implied licence approach must in the end leave it open to the copyright owner expressly to exclude the possibility. It should be the legislature which decides whether this consequence of the exclusive right is too serious a threat to consumer welfare to continue. There should be a statutory provision settling the matter without leaving the choice to the producer.

The United Kingdom and the Irish Republic, as members of the EEC, are likely to come under considerable pressure to withdraw artistic copyright from the protection of predominantly functional elements of industrial design. No continental European system has so far taken so absolute a step in its copyright or its unfair competition law and there appears to be little support there for doing so. But to return to the basic motif of this paper, it may well be judged reasonable to maintain this attitude where there is a functioning patent system (coupled in some places with a utility model or petty patent system for minor advances). If the patent system is severely diminished in scope, amongst the repercussions must arise the question of greater protection for functional shape. As with trade secrets, to give this type of legal right greater emphasis would have a distorting effect, over-accentuating incidental characteristics of certain kinds of industrial products. For all its faults, the patent system is directed towards the whole field of invention and it strives to foster what is most significant in essence. It is from this fundament that the case for retaining and strengthening patent systems must be built.

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<sup>66</sup> See Blanco White and others, *Encyclopedia of United Kingdom and European Patent Law* (1977) para 4-305.

<sup>67</sup> *British Leyland v Armstrong* [1982] FSR 481; *Hoover v Hulme* [1982] FSR 565.