

Chapter 1

Death of a Patent System – Introduction

Peter Drahos

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MODERN DAY patent systems have their origin in medieval times when sovereigns used their power to create exclusive privileges of many different kinds. The use of prerogative or other sources of power to create monopolies in the sale or importation of goods and the regulation of trade and crafts was a widespread practice in both the ancient and medieval world.¹ As states began to emerge in Europe and to use legislation as a means of regulation, the regulation of monopolies became more refined and differentiated. Sovereigns seeking to garner and enclose resources for their states began to use the grant of monopoly privilege as a means of attracting skilled labour and new technologies to their territories. Initially in England, letters of protection were used to this end. So, for example, Fox relates the example of the Letter of Protection that was granted in 1331 to John Kempe, a Fleming, in order to encourage him to bring the technology of cloth weaving to England.² Progressively the use of letters of protection gave way to letters patent and the use of these by the Crown came to be regulated by patent statutes. It was through statutes that a firm nexus was achieved between the exercise of prerogative power in the grant of a monopoly and the public interest.

The system of sovereign-based privileges from which national patent systems evolved impressed upon those systems three fundamental characteristics. Firstly, the grant of a patent by a sovereign was a grant that operated in relation to the territory of the sovereign. The principle of territoriality remains a fundamental feature of national patent systems to this day.³ Secondly, national patent systems

¹ See H.G. Fox, *Monopolies and Patents: A Study of the History and Future of the Patent Monopoly*, Toronto, University of Toronto Press, 1947, chapters 3 and 4.

² H.G. Fox, *Monopolies and Patents: A Study of the History and Future of the Patent Monopoly*, Toronto, University of Toronto Press, 1947, 43.

³ For example, sub-section 13(3) of the Patents Act 1990 (Australia) states that a 'patent has effect throughout the patent area' and 'patent area' is defined to mean Australia including its continental shelf, waters and airspace.

came to be viewed instrumentally – as means to another goal. States in fact came to see patents as the means to a number of different ends. These had to do with states wishing to attract skilled labour from abroad to develop their own manufacturing capabilities, to stimulate domestic investment in their industrial sectors, and then later to protect their domestic industries from competition or domination by foreign cartels, or to increase their gains from trade. This instrumental attitude led over time to a lot of diversity in national patent systems as states shaped their patent law according to their chosen goals. As Graham Dutfield's chapter in this volume makes clear, the way in which Germany, Switzerland, France and Britain designed their patent law with respect to the patenting of products and processes was deeply influenced by the strengths of their respective chemical industries.

The third historical legacy of medieval privilege-based systems was that they linked patent law to a normative ideal of public benefit. Over time the granting of privileges and then patents came to be seen as being justifiable only if the grant served the public benefit in some way. By the time of James Madison and the *Federalist Papers* (1787–88), the connection between patents and public benefit is clearly assumed. Writing about the power of government to create exclusive rights for authors and inventors he observes that '[t]he public good fully coincides in both cases with the claim of individuals'.⁴ This normative ideal is constitutionally entrenched in Article I, Section 8, Clause 8 of the U.S. Constitution and is specified in terms of the promotion of progress in science and the useful arts. Similarly, the change in England in 1716 requiring inventors to describe the invention and the manner of its performance was a recognition that the public interest in the granting of patents had to be protected.⁵

These three features of patent law represent a conception of patent law in which a sovereign regulates the granting of patents in ways that are consistent with the public good of those who reside in the territory of the sovereign. This sovereignty-based, public benefit conception exercised an important influence on the evolution of national patent systems. States moved cautiously when it came to giving up sovereignty over the setting of patent standards that were to apply in their territories. Despite the grand language at the Congress of Vienna for Patent Reform in 1873 about the natural rights of inventors and the need to have those rights protected 'by the laws of all civilized nations', the Convention

⁴ James Madison, Alexander Hamilton and John Jay, *The Federalist Papers* (Isaac Kramnick ed.), Penguin, Harmondsworth, 1987, 279.

⁵ See Fletcher-Moulton LJ in *British United Shoe Machinery Co Ltd v A Fussell & Sons Ltd* (1908) 25 RPC 631 at 649.

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1 for the Protection of Industrial Property (Paris Convention) that was signed by
2 eleven countries in 1883 committed those countries to comparatively little.⁶ The
3 principle of national treatment and the right of priority accorded to inventors
4 who had filed a patent in one country were probably the two most significant
5 commitments. The Paris Convention constituted a Union for the protection of
6 industrial property, but the dream of a unified patent law for the civilized world
7 was a long, long way off. It was still a long way off more than a hundred years
8 later when in 1988 the World Intellectual Property Organization (WIPO) in a
9 study reported that of the 98 members of the Paris Convention, 49 excluded
10 pharmaceutical products from protection, 45 excluded animal varieties, 44
11 excluded methods of treatment, 44 excluded plant varieties, 42 excluded bio-
12 logical processes for producing animal or plant varieties, 35 excluded food prod-
13 ucts, 32 excluded computer programs and 22 excluded chemical products.⁷ This
14 diversity indicates just how instrumentally states viewed patent law. And it is
15 also likely that, on some occasions at least, instrumental regulation of patents
16 by states did aim to serve the normative ideal of promoting the public benefit.
17 The chapter by Anitha Ramanna in this volume points out that the changes to
18 India's patent law in 1970 were motivated by the goal of economic development
19 as well as to prevent high prices for consumers, especially in the pharmaceutical
20 sector. Likewise the strategic use of patent rules by Germany and Switzerland
21 that Graham Dutfield describes did not just bring benefits to individual indus-
22 trialists, but also conferred national economic benefits in terms of investment,
23 technological development and employment. Of course, as the chapter by
24 Margaret Llewelyn in this volume makes clear, the extent to which the insular
25 detail of modern patent law really does serve the public benefit is an open and
26 empirical question. Nevertheless the ideal of public benefit remains part of
27 patent law's normativity, even if in practice the operation of that law falls well
28 short of that ideal for the kinds of reasons that Sigrid Sterkcx and Margaret
29 Llewelyn articulate.

30 The sovereignty-based, public benefit conception of a patent system has a
31 rival conception that was articulated in the Congress of Vienna in 1873 and sub-
32 sequent Congresses. This rival conception is based on universalist aspirations. In
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34 ⁶ S.P. Ladas, *Patents, Trademarks, and Related Rights: National and International*
35 *Protection*, Harvard University Press, Cambridge, 1975, 60.

36 ⁷ 'Existence, scope and form of generally internationally accepted and applied stan-
37 dards/norms for the protection of intellectual property', World Intellectual Property
38 Organization, WO/INF/29 September 1988, issued as GATT document number
39 MTN.GNG/NG11/W/24/REV.1.

this conception the natural rights of inventors provide the moral foundation for a unified patent law for the world. In the International Congress of 1878 the vision of a unified patent law was described by one delegate as a 'utopia' that would be impossible to achieve because the existing differences of industrial law were themselves rooted in generically different legal systems and cultures.⁸ This nineteenth century universalist conception of the one patent system has to some extent gained a practical expression in the project of patent harmonization. While the course of this project has been anything but smooth, it did during the course of the twentieth century produce significant results.

A survey of patent harmonization is beyond the scope of this introduction, but significant milestones have included the revision conferences of the Paris Convention since its signing in 1883 and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs) that was concluded as part of the Uruguay Round of Trade Negotiations in December of 1993. Cooperation on patent procedure has expressed itself amongst states in the form of the Patent Cooperation Treaty (PCT) 1970 and amongst the three major patent offices (the European Patent Office, the U.S. Patent and Trademark Office and the Japanese Patent Office) in the shape of annual Trilateral Conferences since 1983.⁹ The Trilateral Offices have been cooperating on matters such as the mutual exploitation of examination results and the development of similar interpretative approaches to the application of criteria of patentability in fields of high technology.¹⁰ Harmonization of patent classification was first led by Europe in the 1950s when, through the auspices of the Council of Europe, it concluded a treaty on uniform patent classification.¹¹ That European treaty provided the foundation for the Strasbourg Agreement Concerning the International Patent Classification (1971).¹²

Aside from TRIPs, which is of profound importance for the harmonization of some patent standards, WIPO has continued work on the harmonization of substantive patent standards. It began work in 1983 on a draft patent harmo-

⁸ S.P. Ladas, *Patents, Trademarks, and Related Rights: National and International Protection*, Harvard University Press, Cambridge, 1975, 61.

⁹ The Trilateral Offices have a website accessible through the website of each of the Trilateral Offices.

¹⁰ See the report of the 20th Annual Trilateral Conference available at <http://www.jpo.go.jp>.

¹¹ H.C. Wegner, *Patent Harmonization*, Sweet & Maxwell, London, 1993, 22.

¹² A. Bogsch, *Brief History of the First 25 Years of the World Intellectual Property Organization*, WIPO, Geneva, 1992, 27.

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1 nization treaty that led to a Diplomatic Conference in the Hague in 1991. A
2 treaty, however, was not adopted.¹³ In September of 2001, WIPO launched the
3 ‘WIPO Patent Agenda’ that aims to assist in the ratification of the Patent Law
4 Treaty (dealing with the harmonization of procedural requirements), the reform
5 of the PCT and further work on a substantive Patent Law Treaty.

6 The universalist conception of the patent system has also had an important
7 regional expression. Currently there are five regional patent organizations: the
8 African Intellectual Property Organization (OAPI is an organization of French-
9 speaking African states), the African Regional Industrial Property Organization
10 (ARIPO is an organization of English -speaking African states), the Eurasian
11 Patent Organization, the European Patent Organization and the Patent Office of
12 the Gulf Co-operation Council. The most influential of these is the European
13 Patent Organization, which through the European Patent Office (EPO) allows
14 an applicant to pursue a centralized procedure for the grant of a bundle of
15 national patents in the member states of the Organization that are then nation-
16 ally defined, maintained and enforced by those member states. All the members
17 of the European Union are also members of the European Patent Organization.
18 This means that the EPO and the EU have become indissoluble partners in the
19 project of patent harmonization. Within their internal spheres of power over
20 patent law, the EU and the EPO must produce outcomes that as a minimum are
21 compatible with a state being a member of the EU and the European Patent
22 Organization. The way in which the European Union’s Biotechnology Directive
23 has been folded back into the European Patent Convention is a case in point (see
24 the discussion of this by Geertrui Van Overwalle in this volume). Similarly the
25 long-running saga of the European Union’s proposal for a community patent
26 that first took form in the Community Patent Convention of 1975 has been
27 affected by the need to achieve a measure of integration with the European
28 Patent Organization.¹⁴ The EU also adds to the EPO’s influence as an agent of
29 harmonization. Typically, states that wish to join the EU also seek membership
30 of the European Patent Organization because it is an obvious way in which to
31 signal that they have the necessary patent standards that the EU requires.

32 The integration of intellectual property and trade at the regional and bilateral
33 levels may also contribute to the evolution of patent harmonization. Regional
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35 ¹³ A. Bogsch, *Brief History of the First 25 Years of the World Intellectual Property*
36 *Organization*, WIPO, Geneva, 1992, 37.

37 ¹⁴ On this complex issue see Hanns Ullrich, Patent Protection in Europe: Integrating
38 into the Community or the Community into Europe, 8 (2002), *European Law*
39 *Journal*, 433–491.

trade groupings such as the Asia-Pacific Economic Cooperation, the Association of South-East Asian Nations, the North America Free Trade Agreement and Mercosur are in various ways cooperating on the administration and setting of intellectual property standards.¹⁵ At the bilateral level the U.S. in particular has been using its superior bargaining power to ratchet up standards of intellectual property protection in developing countries.¹⁶

Where trade regionalism will take the project of patent harmonization is difficult to say, but it is important to note that states that are members of the World Trade Organization are bound by TRIPs not to offer lower standards of protection than those contained in TRIPs. To some extent the possibility of using regional arrangements as a way of promoting a diversity of patent law is blocked. Regional patent organizations also see in patent harmonization gains in terms of cost savings and productive efficiencies, and so are likely to become stronger and stronger advocates of patent harmonization.

The nineteenth century ideal of a world patent system has also in recent times gained the support of a powerful hegemonic actor. Since World War II, the U.S. has been the most influential actor in the globalisation of regulation.¹⁷ For most of that time it has not been a supporter of the universalist conception of the patent system. Wegner, for instance, points out that the 'PCT was sabotaged by American leaders with a series of procedural requirements and domestic reservations', and as is well known the U.S. has steadfastly stood by the distinctive characteristics of its patent law such as its first to invent system.¹⁸ However, more recently there are signs that it has become much more committed to the cause of a genuine world patent system. James E. Rogan, the current Director of the USPTO pointed out in 2002 that the 'foundation for an international patent system exists in the Patent Cooperation Treaty ... and the Patent Law Treaty ... and in the TRIPs Agreement'.¹⁹ The U.S. has also been the key player in the initiative to reform the PCT, arguing that it offers the best opportunity to create

¹⁵ For an overview see M. Blakeney, 'The Role of Intellectual Property Law in Regional Commercial Unions in Europe and Asia' 16 (1998) *Prometheus*, 341–350.

¹⁶ P. Drahos, 'BITs and BIPs – Bilateralism in Intellectual Property' (2001) 4 *Journal of World Intellectual Property*, 791–808.

¹⁷ John Braithwaite and Peter Drahos, *Global Business Regulation*, Cambridge, Cambridge University Press, 2000, 27.

¹⁸ H.C. Wegner, *Patent Harmonization*, Sweet & Maxwell, London, 1993, 23.

¹⁹ See James E Rogan, Global Recognition of Patent Rights, speech at the WIPO Conference on the International Patent System, 26 March 2002, available at <http://www.wipo.org>.

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1 a truly international patent system.²⁰ The other key group of actors in the
2 globalisation of business regulation in general has been business, whether in the
3 shape of international business organizations, national business organizations
4 or individual companies. Large U.S. multinationals in particular have proven to
5 be the most effective in enrolling the support of powerful states for their regula-
6 tory agendas.²¹ In the field of intellectual property, U.S. multinationals in
7 alliance with European companies pushed for the inclusion of an agreement on
8 intellectual property in the Uruguay Round of trade negotiations and then
9 contributed much to the content of that agreement.²² These companies, which
10 represent the biggest users of national patent systems around the world, will
11 most probably have a determining influence on the outcome of WIPO's Patent
12 Agenda and the course of global patent harmonization.

13 Individual multinational companies will form their own strategic assessment
14 of the value of global patent harmonization to them and this in turn will impact
15 on the extent to which such companies will operate collectively on this issue
16 through various business organizations. Multinational companies were able to
17 unite around a set of patent standards for the purposes of TRIPs. Within the
18 U.S., post TRIPs the multinational users of the patent system have continued to
19 urge the United States Trade Representative and Congress to negotiate trade
20 agreements that contain ever higher standards of patentability.²³ In particular,
21 the push in these agreements has been towards broad, non-discriminatory
22 standards of patentable subject matter and limiting state access to patents in the
23 form of restrictions on compulsory licensing.²⁴

24 The linkage between trade and intellectual property has seen state sovereignty
25 over standards of intellectual property increasingly become a residual sover-
26 eignty. As Anitha Ramanna's chapter well describes, major critics of western
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28 ²⁰ See Carlos M. Correa and Sisule F. Musungu, *The WIPO Patent Agenda: The Risks*
29 *For Developing Countries*, T.R.A.D.E., Working Papers, South Centre, 2002, 25.

30 ²¹ John Braithwaite and Peter Drahos, *Global Business Regulation*, Cambridge,
31 Cambridge University Press, 2000, 27.

32 ²² P. Drahos with John Braithwaite, *Information Feudalism*, Earthscan, London, 2002;
33 S.K. Sell, *Private Power, Public Law*, Cambridge University Press, Cambridge, 2003.

34 ²³ The membership of the Industry Functional Advisory Committee on Intellectual
35 Property Rights for Trade Policy Matters, the Committee that advises Congress on
36 free trade agreements, is made up of industry lobbyists or multinational companies.
37 This Committee has urged Congress and the United States Trade Representative to
38 seek higher and higher standards of intellectual property protection.

39 ²⁴ See, for example, the draft intellectual property provisions of the U.S.-Singapore
Free Trade Agreement.

patent systems such as India and therefore major defenders of state sovereignty over patent standards have changed their thinking about western patent models. Participation in a high standard patent system in which patent standards are set in Geneva or Washington are seen as a fact of life by local political elites and justified to national publics as part of the processes of modernization and modernity. The sovereignty-based public interest conception of patents that permitted a diversity of national patent systems to develop has entered the twilight phase of its life.

The universalist conception of the patent system that is currently evolving to take its place raises fundamental issues of normative theory of the kind that Sigrid Sterckx discusses. What kind of normative theory, for instance, can be used to justify the universalism of the patent system? The appeal to natural rights is not, as Sigrid Sterckx shows in her chapter, especially convincing for national systems let alone a world system. Appeals to distributive theory are also not likely to be persuasive since, amongst other things, the evidence suggests that at a country level patent systems tend to enrich the already rich. Then a world system would tend to reward disproportionately the first inventor and leave no scope for the possibility of rewarding independent inventors in separate territories. This leaves the possibility of some kind of efficiency justification. Any such justification would have to deal with the argument that patents in wealthy national markets produce enough of an incentive for innovation. What would be the extra incentive effects of a world patent system? The danger of a world system is that it would slow the uptake of knowledge around the globe without an incentive effect of sufficient size to take such a system into a positive welfare balance.

In order for a world system to meet the criterion of efficiency it would have to be designed in light of the kind of considerations that Lachlan James identifies in his chapter. As he argues, it is inventiveness (non-obviousness) that lies at the heart of the grant of a patent. Without inventiveness there is no act to which the natural right of an inventor can attach, no consideration that moves to the state in exchange for the grant, or no efficiency gain of any kind since there is nothing in existence that was not already there and hence no new knowledge to diffuse. Yet his chapter shows that as the subject matter of the patent system had moved into new fields such as the patenting of genes and computer software, a gap has opened up between the patent conception of inventiveness and what we know about genuine creativity from neuropsychology. Inventiveness in patent law in the hands of the courts has in many instances ceased to be about the novel association that lies at the heart of Lachlan James' neuropsychological model, and has become more about rewarding labour, or perhaps, at least in some cases,

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1 those who have the money to invest in the patent process itself. In a process that
2 is reflexive, the expansion of the patent monopoly has created an incentive to
3 invest in patents rather than inventiveness.

4 This investment by business actors in strengthening patents has, as the essay
5 by John R. Thomas shows, consequences for personal liberty. Thomas' theme is
6 similar to that articulated by the Realist writer Morris Cohen – granting
7 *dominium* over things to some individuals conveys *imperium* to them over their
8 fellow citizens.²⁵ As he points out, virtually no part of human communication,
9 technique or method escapes the reach of U.S. patent law. Privately drafted
10 patent claims have a potentially powerful lawmaking effect and yet the checks
11 that are normally present on public lawmakers are virtually absent. Drawing on
12 rich traditions of U.S. constitutional theorizing, the Thomas essay explores how
13 private governance by patent might be checked by constitutional protections and
14 doctrines like freedom of speech and the non-delegation doctrine. His essay
15 suggests that these protections and doctrines offer potential, but whether U.S.
16 courts will switch from seeing patents as private property to private legislation
17 and develop this constitutional potential to limit the power of the patentee is
18 another matter. The Thomas essay also raises the interesting question of how
19 other countries that have acquired a U.S. post-industrial model of patenting will
20 deal constitutionally or otherwise with its private governance effects.

21 The shift to a universal conception of the patent system offers the opportu-
22 nity for states to devise a patent system that imposes a global standard of
23 genuine creative inventiveness on patent applicants. This would reverse the race
24 to the bottom that seems to have occurred in patent law in relation to the crite-
25 rion of inventiveness. It may also be that this is actually in the interests of the
26 multinationals that are the biggest users of patents. The global proliferation of
27 patenting and its expanded subject matter is in some ways not unlike a period of
28 hyperinflation in the currency of patents. At some point the value of patents that
29 can be obtained with minimum or no inventiveness must begin to decline.
30 Moreover, if theories such as those of the anti-commons and the intellectual
31 commons are right, all industry players will face increased and, in many cases,
32 impossible transaction costs.²⁶ The rate of innovation will begin to decline in a
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34 ²⁵ M. Cohen, 'Property and Sovereignty' 13 (1927) *Cornell Law Quarterly*, 8.

35 ²⁶ See Peter Drahos, *A Philosophy of Intellectual Property*, Dartmouth, Aldershot,
36 1996, 63; Michael A. Heller, 'The tragedy of the Anticommons: Property in the
37 Transition from Marx to Markets' 111 (1998) *Harvard Law Review*, 621; James M.
38 Buchanan and Yong J. Yoon, 'Symmetric Tragedies: Commons and Anticommons'
39 43 (2000) *Journal of Law and Economics*, 1.

period of patent hyperinflation and large industry players may be better off returning to a standard of real inventiveness. (This logic does not necessarily hold for smaller players since they may do better depending on the licensing strategies they pursue.) Of course, whether large players see the issue of inventiveness in this way is another matter. They may instead choose to follow the logic implicit in the old saying that better a weak patent in strong hands than a strong patent in weak hands.

The chapters by Margaret Llewelyn, Lachlan James and Sigrid Sterckx highlight the deep problems in the sovereignty-based, public benefit conception of a patent system. The chapter by John R. Thomas reveals the liberty costs of a post-industrial version of such a system. Despite its problems, as the chapters by Anitha Ramanna and Graham Dutfield show, this conception of a patent system did at some stages in history deliver some real benefits to countries. Lachlan James' comparative discussion of the case law on inventiveness also suggests that at various stages national courts have got it right. The route to a universalist system, as Geertrui Van Overwalle's discussion of the EU Biotechnology Directive demonstrates, will have to cope with the ethical and jurisprudential diversity of the world. This diversity will see states wanting to go their own way, as Belgium has on the implementation of the right to informed consent and the right to fair and equitable sharing in the Biotechnology Directive. Whether the universalist conception of the patent system, when it gains full expression, will bring with it an overall increase in global welfare, only time will tell. Universalist systems, as those who have lived on the periphery of empires have discovered, rarely deliver what they promise.