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## Patent offices and the global governance of knowledge

### The patent ocean: Kiribati

It is a little surprising that one can apply for a patent in Kiribati. More surprising though is that there are twenty or so mainly pharmaceutical patents registered in its patent office.<sup>1</sup> No-one in Kiribati much cares about the few patent files languishing in a filing cabinet since, if the predictions about climate change are right, they are destined for Davey Jones' locker. Almost all of Kiribati is less than two metres above sea level and so its inhabitants are experiencing what happens when an ocean begins to rise up and wash over settled land. The furthest thing from anyone's mind on Kiribati is pharmaceutical patents and yet someone could be bothered to apply for them.

If one had to guess where one could not lodge a patent, Kiribati would have been a plausible choice. Given another guess one might opt for some deeply war-torn country such as Iraq or Afghanistan. In the case of Iraq it is a case of 'nice try, but no cigar'. Prior to the US invasion of Iraq, there was a patent law in place. After the US invasion, the Administrator of the Coalition Provisional Authority, Paul Bremer, promulgated an order that brought aspects of Iraq's patent law up to international standards.<sup>2</sup> Patenting activity in the Iraq Patent Office (PO) is not great.<sup>3</sup> The cigar is tantalizingly in reach with Afghanistan. But Afghanistan did become a member of the World Intellectual Property Organization (WIPO) in 2005<sup>4</sup> and since then has been working closely with WIPO on developing its laws and establishing a patent office. The Director General of

<sup>1</sup> Fiona Ey, 'Institutional Framework and Procedures Regulating Access to Pharmaceutical Products to Address Public Health Problems', Paper prepared for Commonwealth Secretariat, December 2005, 17.

<sup>2</sup> 'Coalition Provisional Authority Order Number 81: Patent, Industrial Design, Undisclosed Information, Integrated Circuits and Plant Variety Law', 26 April 2004. Available at [www.trade.gov/static/iraq\\_memo81.pdf](http://www.trade.gov/static/iraq_memo81.pdf).

<sup>3</sup> See the entry for Iraq in Table A1 in the *World Patent Report*, 2008, WIPO, Geneva, 63.

<sup>4</sup> See [www.wipo.int/about-ip/en/ipworldwide/pdf/af.pdf](http://www.wipo.int/about-ip/en/ipworldwide/pdf/af.pdf).

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Afghanistan's Intellectual Property Board did get up and thank WIPO at a meeting of patent offices in 2007 in Singapore for all its assistance in helping to set up a patent office.<sup>5</sup>

In fact it is hard to identify a country where one cannot register a patent. Of course one can get into debates over what counts as a country for the purpose of the question. Is the Holy See a country? Whether it is or not, according to WIPO Italian patent law applies and it has an industrial property office (industrial property includes patents).<sup>6</sup> Even if one is brave enough to ask a rugby-loving Welshman whether Wales really is a country, the fact that Wales does not have its own patent office does not mean that it is a patent-free zone. The UK PO, which is located in Wales, issues patents for the UK.

Depending on how one defines and counts countries, there appear to be about 195 countries in the world. There are probably less than five countries where one cannot obtain a patent. Timor Leste is one such country. Some countries, such as Somalia, have a patent office, but whether it is open for business is another question. Since there are about fifty least-developed countries in the world (meaning they have a gross national income per capita of under US\$750<sup>7</sup>) and patent law is a form of law linked to technological affluence, one might have expected it to be easy to identify countries without patent law and offices.<sup>8</sup> It turns out that most of the poor countries of the world have acquired patent law and patent offices as a result of processes of colonization or more recently globalization. Patent law in these countries is 'imported law' or, perhaps more accurately, imposed law.<sup>9</sup> For example, we will see in Chapter 10 that Kiribati acquired its patent law when it was a British colony. Similarly, the integration of African countries into the international patent framework began during colonial times. Today the only continent to have two regional patent organizations is Africa (see Chapter 10).

Once the patent institution takes hold in a country it has proved to have a viral-like resilience, reproducing itself in ever more sophisticated

<sup>5</sup> WIPO Asia-Pacific Forum of Heads of Intellectual Property Offices, Singapore, 4–6 December 2007. The author attended this meeting as an observer.

<sup>6</sup> See [www.wipo.int/about-ip/en/ipworldwide/pdf/va.pdf](http://www.wipo.int/about-ip/en/ipworldwide/pdf/va.pdf).

<sup>7</sup> See [www.un.org/special-rep/ohrlls/ldc/ldc%20criteria.htm](http://www.un.org/special-rep/ohrlls/ldc/ldc%20criteria.htm).

<sup>8</sup> See [www.wipo.int/ldcs/en/statistics/number\\_ldcs.html](http://www.wipo.int/ldcs/en/statistics/number_ldcs.html).

<sup>9</sup> The term 'imported law' comes from Nobuyuki Yasuda, 'Law and Development from the Southeast Asian Perspective: Methodology, History, and Paradigm Change' in Christoph Antons (ed.), *Law and Development in East and Southeast Asia*, Routledge Curzon, London and New York, 2003, 25, 27.

ways and in the unlikeliest places. The remarkable spread of the patent institution throughout the world provides the foundation for a global system of patent governance of the world's technological markets. The next section outlines this system of governance.

### Global patent governance

The study began with the hypothesis that patent offices around the world are cooperating to integrate their administrative procedures and technical systems, thereby building a system for the global governance of knowledge. For present purposes, cooperative behaviour is behaviour aimed at facilitating some common purpose, an example being the exchange of examiners between offices in order to better understand the other office's examination procedures. Integration refers to the adoption of a system or standard by two or more offices that leads those offices to have similar work outcomes in relation to patent applications. For example, offices can be said to be integrating if they adopt the same technical systems for searching the patent and non-patent literature, if they adopt the same patent system for classifying patent applications, or if they establish a procedure for sharing or recognizing the work results of other offices.

This hypothesis was derived from the findings of an earlier, much broader study of the globalization of business regulation in more than twenty different regulatory domains that I did with John Braithwaite.<sup>10</sup> Amongst our conclusions were that hegemony within the world system had come to depend profoundly upon the commodification and control of abstract objects by means of intellectual property rights. Related findings were that multinationals, in particular US multinationals, had been crucial actors in re-shaping the intellectual property regime by linking it to the trade regime and that US multinationals were the most recurrently effective actors in enrolling the power of states and influential international organizations when it came to achieving their global regulatory agendas.

When it comes to the patent system, the regulatory agenda of multinationals is to have in all significant markets a set of largely uniform patent rules that make it cheap to obtain patents, that maximize the scope of patentable subject matter and that minimize state control over the use of the patented technology (see Chapter 6). Standing in the way of this agenda is

<sup>10</sup> John Braithwaite and Peter Drahos, *Global Business Regulation*, Cambridge University Press, Cambridge, 2000.

the fact that patent systems remain predominantly national institutions with a small number of regional arrangements. At the level of rules and procedures, patent harmonization has a long way to go and negotiations amongst states to harmonize patent rules have over the decades, like glaciers, only inched forward.<sup>11</sup> Moreover, historically states had moved very cautiously in giving up sovereignty over their patent systems, using them in various ways as tools to protect their industries and allowing for selective free-riding. Patent offices were absolutely fundamental to such state strategies because much can be hidden in the detail of administration. Given the territorial, protectionist origins of patent offices one would not have necessarily predicted the emergence of high levels of cooperation amongst them.

One way in which to progress the patent harmonization agenda is for patent offices to cooperate in the recognition of each other's work results and procedures. We will see that the gains to multinational companies of patent office cooperation are high. It follows that multinationals have strong incentives to encourage such cooperation amongst offices. As my work with John Braithwaite showed, multinational companies also have a successful track record of being able to enrol national and international organizations to meet their global regulatory goals. In the remaining chapters of this book we will see that patent offices are, through cooperation at the level of administration, helping to create a system for the global governance of knowledge. This governance system represents a private power of taxation based on the use of patents. Those best placed to use this system of governance are multinationals with large patent portfolios. In the section following this one, we will see that the taxing power of patents enables patent owners to regulate the world's technology markets. The taxing power of patents does not depend on just one patent, but large patent portfolios, as well as complementary strengths such as power over distribution networks and brand identity. Under these conditions the taxation power of patents comes into its own. Multinationals with large patent portfolios use those portfolios to constitute a private fiscal base. Through patents they build a system of private taxation of the world's technology markets. Small players, such as universities, that send their staff chasing after patents generally end up selling or licensing

<sup>11</sup> For an account of some of the problems see Susan K. Sell, *Power and Ideas: North-South Politics of Intellectual Property and Antitrust*, State University of New York Press, Albany NY, 1998. On the differences of detail see Harold C. Wegner, *Patent Harmonization*, Sweet and Maxwell, London, 1993.

their patents (usually on poor terms) because they do not have complementary strengths of branding and distribution.<sup>12</sup> They have patents but not a system of patent governance and so end up as cogs in other players' systems.

National and regional patent offices of developed and developing countries play a vital role in the nuts and bolts of this system of governance. In fact we will see that patent offices, at the level of technical cooperation, have been able to advance the case of global patent governance further than have states at the level of treaty negotiation. Much has been achieved in the construction of a global system of patent governance by patent offices through quiet technocratic cooperation. This governance system should not, however, be confused with the idea of a world patent. In order to better understand this system of governance the next section provides some definitional clarifications. Before moving on we should note that this patent-based governance system for knowledge is not the only one under construction. Other systems based on ideas of shared ownership of resources are much discussed these days, but patent-based governance of knowledge is arguably the most advanced in terms of a global administrative infrastructure.<sup>13</sup>

### Definitional clarifications

There is no global patent system in the sense of a patent office to which one can apply for the grant of a single patent that will apply in all the countries of the world. Patent law remains deeply territorial. There is US patent law, Japanese patent law, South African patent law, Chinese patent law and so on. In order to get a patent in the US, for example, the United States Patent and Trademark Office (USPTO) must grant that patent. As is always the case with patent law, there are qualifications and nuances to even the most basic propositions. So, for example, in order to acquire a patent in the US one does not have to start the patent application in the USPTO.

<sup>12</sup> For the wide variations in profitability of patenting by US universities see Dennis R. Trune and Lewis N. Goslin, 'University Technology Transfer Programs: A Profit/Loss Analysis', 57 (1998) *Technological Forecasting and Social Change*, 197. For a study that shows that returns from patenting are skewed towards a small number of universities see A.D. Heher, 'Return on Investment in Innovation: Implications for Institutions and National Agencies', 31 (2006) *Journal of Technology Transfer*, 403.

<sup>13</sup> For an excellent survey of the politics of movements that are launching alternatives to patent-based governance see Amy Kapczynski, 'The Access to Knowledge Mobilization and the New Politics of Intellectual Property', 117 (2008) *Yale Law Journal*, 804.

Under international treaty rules one can start the application process in another office, but ultimately it is the USPTO that has to grant the patent. The deep territoriality of patent law also has qualifications since there are regional arrangements for the grant of patents in some parts of the world. The most well known of these arrangements is the one constituted by the European Patent Convention (EPC). However, these regional arrangements for the most part build on the national territoriality of patents. The European Patent Office (EPO), for example, grants what is termed a European patent, but under the EPC that patent has the effect of being a national patent in contracting states.<sup>14</sup> Enforcement under the EPC system is left to national courts.

Even though one cannot speak of a global patent system in the legal sense of a single granted patent that applies in all the jurisdictions of the world, one can speak of the globalization of patent systems to refer to the fact that more and more countries have or are in the process of acquiring a national patent system. The phrase *patent system* is used to refer to patent law as administered by various actors such as patent offices, courts and the patent attorney profession. The *patent law* of a country is made up of legislation (usually a patent statute or code), including various forms of delegated legislation, and the interpretation of that legislation by authoritative bodies (these may include courts, tribunals, patent offices etc.). The national patent law of countries has been the subject of international coordination and harmonization through international agreements. The term *international patent framework* will be used here to refer to the multilateral treaties and agreements that deal with patents, the most important of these being the Paris Convention for the Protection of Industrial Property, 1883 (Paris Convention), the Patent Cooperation Treaty, 1970 (PCT) and the Agreement on Trade-Related Aspects of Intellectual Property Rights, 1994 (TRIPS). Included in the international patent framework are also regional treaties such as the EPC along with hundreds of bilateral agreements (for example, free trade agreements (FTAs)) that deal with intellectual property standards, including patents.<sup>15</sup> One might also use the term *international patent regime* to refer to the various treaties and agreements, but the term *regime* comes out of a set of theoretical debates in international relations and so for the most part the more descriptive term *international*

<sup>14</sup> See Article 2 of the European Patent Convention.

<sup>15</sup> On the role of those bilateral agreements see Peter Drahos, 'BITS and BIPS: Bilateralism in Intellectual Property', 4 (2001) *Journal of World Intellectual Property*, 791.

*patent framework* will be used. The term *patent institution* follows the economist's use of the term institution and simply refers to a discrete set of rules that shape the responses and behaviour of interacting human beings in particular contexts.<sup>16</sup> Patent system and patent institution in this book function as interchangeable terms, the use of institution providing a convenient link to the literature on the importance of institutions to economic progress.

### Patents as private taxation

Following Macaulay's suggestion in 1841 that copyright is a 'tax on readers', one might also say that patents are a tax on consumers of technology.<sup>17</sup> In much the same way that the category of readers includes potential authors, consumers also includes innovators. This leads to an ancillary claim that patents are a tax on innovators.

Conceiving of patents as a form of private tax is generally useful because it brings the costs of patents sharply into focus. Characterizing the patent monopoly as a private property right has a certain cloaking effect when it comes to understanding the real-world cost of patents. The ideological appeal of property rights can sometimes obscure the cost issue when it comes to making decisions about whether or not to strengthen intellectual property rights. Arguments for raising taxes on the other hand rarely escape notice or scrutiny. Thinking about intellectual property rights as a form of tax brings into obvious sight the possibility that, just as one can have too many taxes, one can have too much intellectual property. It also leads into a discussion about the compliance burden generated by this private system of taxation. John Thomas nicely captures its scale in the US by pointing out that in 2000 the US government issued about 83,000 pages of regulations, guidelines etc. in its Federal Register, whereas the USPTO in its *Official Gazette* was generating about 40,000 pages per week, essentially generating in two weeks what the rest of the

<sup>16</sup> See Douglass C. North, *Institutions, Institutional Change and Economic Performance*, Cambridge University Press, Cambridge, 1990, 3.

<sup>17</sup> For the quote and its context see Mark Rose, 'Nine-Tenths of the Law: the English Copyright Debates and the Rhetoric of the Public Domain', 66 (2003) *Law and Contemporary Problems*, 75, 83. In nineteenth-century debates over the patent system, some of those against the system argued that patents were a tax on manufacturers. See Moureen Coulter, *Property in Ideas: The Patent Question in Mid-Victorian Britain*, Thomas Jefferson University Press, Kirksville, Missouri, 1991, 89–90.

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US government generated in a year.<sup>18</sup> This staggering statistic captures another point about patent offices. They are massive sources of administrative regulation of the economy.

The reason for characterizing patents as a form of tax is not, however, to begin discussion about the costs and benefits of the patent system but rather to help explain why large corporations take so keen an interest in the reform of patent office administration. Each time a patent office grants a patent, in effect, it issues a right to collect taxes. This right may take the form of a licensing agreement in which a licensee agrees to pay royalties or in the form of the monopoly price that the patent owner is able to charge consumers. Broadly speaking, states emerge when sovereigns are able to enclose resources within a territorial boundary and, through law, tax those resources. The use of taxes represents the last stage of the fiscal evolution of the state, an evolution in which the use of monopolies to raise revenue features prominently.<sup>19</sup> States acting rationally will seek to enclose as many resources as possible in order to create a large fiscal base. Preserving the integrity of their fiscal base is one of the primary goals of modern states. Multinationals operating in the global knowledge economy face a situation not dissimilar to states. Patent portfolios offer a means of enclosing knowledge assets for potential exploitation. A patent gives a private right of command over a resource that takes the form of a bundle of rights which when exercised by the patent owner creates a stream of private revenue. The size of the revenue will be determined by various factors including demand for the technology and the availability of substitutes.

Patents perform a double function in terms of the fiscal base of multinationals. They help to define the scope of the fiscal base and at the same time they create the possibility of revenue streams from that base. So, for example, it matters profoundly to pharmaceutical multinationals whether chemical compounds are part of patentable subject matter. Patents do not just define the scope of a multinational's fiscal base through patentable subject matter definitions, but also through territorial reach. A country that did not have a patent law would not form part of a multinational's private taxation system since a company could not lodge patents there. It would have no private right of taxation that was

<sup>18</sup> John R. Thomas, 'The Responsibility of the Rulemaker: Comparative Approaches to Patent Administration Reform', 17 (2002) *Berkeley Technology Law Journal*, 727, 740.

<sup>19</sup> On the history of the use of state monopolies for revenue raising purposes see C.F. Bastable, 'Taxation Through Monopoly', 1 (1891) *The Economic Journal*, 307.



backed by patent law and the courts. For multinationals there is a strong incentive to ensure that all countries have a patent system because it means that those countries become part of the patent-based system of taxation, as well as reducing the number of countries that can in this private system of taxation play the role of patent havens. In a world where capital and scientific skill are highly mobile there is some chance, admittedly small, that a small island country might end up in the role of a patent haven. Large pharmaceutical companies have probably never given much thought to registering their patents in Malta, but this has seen at least one generic company build a large plant there in order to take advantage of the pharmaceutical patent free environment.<sup>20</sup> Large pharmaceutical companies do not like this kind of surprise. This, in part, helps to explain why even the smallest countries in the world are being integrated into a system of patent governance. Malta is now a member of the EPC.

Understanding the global patent regime as a system of private taxation also enables us to see more clearly the importance of patent offices to multinationals. In essence, a system of private taxation, just like a system of public taxation, depends on massive bureaucracy. The global integration of patent offices is creating just such a bureaucracy. To begin with, it is important that a country has a patent office that issues patents for that country. A patent law without a patent office is of little use to companies since without a patent office there would be no one to issue the patents, i.e. the instruments of private taxation. A country need not have a national office as long as there is an office that issues a patent for the territory of that country. In much the same way that sovereign states have automated the collection of taxes, so too multinationals as private sovereigns have sought a high degree of regulatory automation of the patent application process. Instead of complex and distinctive national procedures of application, multinationals want simple and common application procedures (see, for example, the position of the Industry Trilateral described in Chapter 6). We will also see that multinationals want a multilateral approach to patent office administration in which, for instance, the examination work of one office is used or recognized by other offices leading to a saving of work and time by these other offices. There is some irony in this, for in the area of public taxation, multinationals have been more supportive of bilateral

<sup>20</sup> See 'Malta's lack of pharma patents seemed positive', [www.maltamedia.com/artman2/publish/financial/article\\_2189.shtml](http://www.maltamedia.com/artman2/publish/financial/article_2189.shtml).

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models of state taxation in which states are more likely to compete against each other to the benefit of multinationals.<sup>21</sup>

### Collective action, co-evolution and diffusion: explaining the changes in patent office administration

The globalization of the patent institution is an example of regulatory globalization. One explanation for processes of regulatory globalization, an explanation that John Braithwaite and I have advanced, is that globalization is best understood in terms of actors using mechanisms at their disposal to support some principles of regulation and to oppose others. Regulatory globalization becomes a contest of principles in which there are winners and losers. By way of example, states or multinationals with large trade gains from intellectual property have supported the principle of national treatment and the principle of harmonization (in the direction of higher standards) while net importers of intellectual property have sought to minimize the operation of these principles using the principle of state sovereignty. Economic coercion, such as the use of threats of trade sanctions, has been a dominant mechanism deployed by powerful coalitions of the US and multinational companies.<sup>22</sup>

The patent institution is in practical terms a fully globalized (but not harmonized) institution. At the level of principle, a deep convergence has occurred in patent law. TRIPS requires its members to recognize patents for inventions that are new, inventive and have industrial application.<sup>23</sup> But principles are in their nature abstract and open-ended and can through interpretation be adapted to suit local circumstances and context. TRIPS, for example, does not define what is invention, meaning that there is some scope for national interpretation. Similarly, it does not define a level of inventiveness, it merely requires inventiveness for the purposes of patentability. Even more importantly, TRIPS says virtually nothing about how a country is to administer its patent system. It does not require or prohibit, for example, a system of pre-grant opposition. It leaves it open to a country to have a system of deferred or mandatory examination of patent applications. At the level of interpretation of principles and in the

<sup>21</sup> Braithwaite and Drahos, *Global Business Regulation*, 106–9.

<sup>22</sup> Peter Drahos with John Braithwaite, *Information Feudalism*, Earthscan, London, 2002, Ch. 6.

<sup>23</sup> Article 27.1.