THE END OF THE NATIONAL PATENT OFFICE

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ABSTRACT

This work proclaims the end of the National Patent Office. My assertion is that the ñtraditionalò or conventional mode of operation of the National Patent Office is no longer compatible with the way in which innovations are being registered, patented, protected, and enforced around the world. In my view, the reduced relevance of the National Patent Office is a direct result of the cross-border characteristics of innovation; the world-encompassing threshold of patent registration (*i.e.*, the international novelty requirement); and the international structure of patent protection. Indeed, given the nature of patents and the centralized international patent system that is already in place, the role of the National Patent Office has been largely displaced by an international patent system comprising well-defined legal and administrative structures (*e.g.*, the Agreement on Trade-Related Aspects of Intellectual Property Rights and the Patent Cooperation Treaty), as well as a patent prosecution highway. In a nutshell, the National Patent Office is now on its way to becoming a mere relic of a territorially-oriented frameworkð an anachronism that must be changed to promote useful science and innovation around the world.

INTRODUCTION: CATALYST FOR THE RESEARCH

Any time that one encounters a work proclaiming ñthe End ofò, one braces oneself for a dramatic discovery.[1] However, despite its title, this Article is less about discovering and more about uncovering. Metaphorically speaking, my role here is not to write the play, nor to select the cast; rather, my role is merely to raise the curtainð a humble, albeit crucial gesture, which enables the well-rehearsed production of innovation to play out more freely and authentically.

This Article declares the end of the territorially based patent registration process in its conventional form. My assertion is that the ñtraditionalò or conventional mode of operation of the National Patent Office (ñNPOò) is no longer

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[1] In the introduction to his book, *The End of History and the Last Man*, Francis Fukuyama states that:

> The distant origins of the present volume lie in an article entitled ñThe End of History?ò which I [Fukuyama] wrote for the journal *The National Interest* in the summer of 1989. In it, I argued that a remarkable consensus concerning the legitimacy of liberal democracy as a system of government had emerged throughout the world over the past few years, as it conquered rival ideologies like hereditary monarchy, fascism, and most recently communism. More than that, however, I argued that liberal democracy may constitute the ñend point of mankindôs ideological evolutionò and the ñfinal form of human government,ò and as such constituted the ñend of history.ò That is, while earlier forms of government were characterized by grave defects and irrationalities that led to their eventual collapse, liberal democracy was arguably free from such fundamental internal contradictions. This was not to say that todayôs stable democracies, like the United States, France, or Switzerland, were not without injustice or serious social problems. But these problems were ones of incomplete implementation of the twin principles of liberty and equality on which modern democracy is founded, rather than of flaws in the principles themselves. While some present-day countries might fail to achieve stable liberal democracy, and others might lapse back into other, more primitive forms of rule like theocracy or military dictatorship, the *ideal* of liberal democracy could not be improved on.

FRANCIS FUKUYAMA: THE END OF HISTORY AND THE LAST MAN, xi (1992) (footnote omitted) (emphasis in original); *see also* THEODORE J LOWI, THE END OF LIBERALISM: THE SECOND REPUBLIC OF THE UNITED STATES (1969) (documenting the end of the liberal state in the 1960s); Douglas G. Baird & Robert K. Rasmussen, *The End of Bankruptcy*, 55 STANFORD L. REV. 751 (2002) (arguing that large companies are no longer using Chapter 11 when they declare bankruptcy); *The End of Suburbia: Oil Depletion and the Collapse of The American Dream*, http://www.endofsuburbia.com/ (chronicling the end of suburbia as a result of oil depletion in a documentary film).

synchronized with the way patents are registered, patented, protected, and enforced around the world. In other words, in light of the current international patent system, the NPO is well on its way to becoming redundant. It is merely a relic of a predominantly obsolete, territorially-oriented framework. In my view, the role that NPOs have originally played (namely examination and registration) has now shifted to other international players. Consequently, the observation at the center of this Article is justified and work on its implementation can move ahead without delay or hesitation.

With that being said, it would be presumptuous of me not to mention the existing benefits of NPOs.[2] However, my contention is that these benefits are overshadowed by the advantages that a full international patent system could provide. The transition to a full international patent system would constitute a beneficial stepð one that should not be substantially marred by the costs of such a transition or the loss of the benefits that NPOs provide.

This proposed transition from the current system, wherein NPOs operate alongside existing international patent regulation (*e.g.*, TRIPS and PCT), to a full international patent system, merely acknowledges a process of evolution that has spanned the past three decades. Therefore, in effect, I do not intend to herald a new model of international patent regulation but rather to proclaim the *de facto* existence of this ñnewò order. My prediction is that NPOs will become a thing of the past. However, to establish the merits of this provocative argument, two elements need to be established, namely (1) the factual element and (2) the normative one. More specifically, I shall address questions concerning whether or not the NPO is dispensable and whether the NPO should be discarded. Clearly, the validity and success of my hypothesis is contingent on establishing positive responses to both of these questions.

In fact, these questions address two sides of the same coin. The first question deals with the procedural and technical aspects pertaining to my hypothesis. It seeks to expose the diminishing traditional role of the NPO given the changing nature of innovation and the expanding role of international patent regulation and registration. It goes to show that the domain of NPOs has been diminished because of the way innovation is registered and protected on the ground. The second question that I have raised in this research is directed to the more complex, normative aspects of the debate. Here, my focus, among other things, is on the macro and micro cost-benefit ramifications of the proposed shift from the NPO to an International Patent Office (ñIPOò). These questions are addressed in the next two Parts, respectively. Following this, I will present

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[2] *See* Part II, *infra.*

my view as to how the proposed International Patent System (ñIPSò) should be structured, and how such a system may be expected to function.

I. IS THE NATIONAL PATENT OFFICE DISPENSABLE?

The conventional patent system as it exists today is characterized by a two-tier system: domestic and international. The domestic tier comprises various national entities including a NPO.[3] The international tier of the system comprises various unions and organizations that operate in accordance with a number of conventions, treaties, and agreements.[4] The historical narrative behind this dual structure reverts back to the dual commercial nature of patents. That is, while patents are protected on a territorial basis, they constitute a potent component of international trade and commerce. To show that NPOs are dispensable, it must be established that its typical roles are effectively being carried out by other entitiesð so much so that eliminating NPOs altogether would not undermine the level of patent protection. My argument here is that over the past few decades, a subtle but consistent change has been unfolding with respect to patent protection and regulation thereof. Specifically, the focus has been shift-

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[3] African Regional Intellectual Property Organization (ñARIPOò), http://www.ipaustralia.gov.au; Canadian Intellectual Property Office (ñCIPOò), http://www.cipo.ip.gc.ca; Ethiopian Intellectual Property Office (ñEIPOò); http://www.eipo.gov.et/; German Patent Office (ñDPMAò); http://www.dpma.de/english/index.html; IP Australia (ñIPAò); http://www.ipaustralia.gov.au; Intellectual Property India: Controller of Patents Designs and Trademarks, http://ipindia.nic.in/ipr/patent/patents.htm, Intellectual Property Office of Singapore (ñIPOSò); http://www.ipos.gov.sg; Irish Patents Office http://www.patentsoffice.ie/; Japan Patent Office, http://www.jpo.go.jp/; Korean Intellectual Property Office (ñKIPOò), http://www.kipo.go.kr/kpo/eng/; Polish Patent Office (ñPPOò), http://www.patent.pl/; Russian Federal Service for Intellectual Property, Patents and Trademarks (ñRospatentò), http://www.rupto.ru/en_site/index_en.htm; Spanish Patent and Trademark Office (ñSPTOò), http://www.oepm.es/en/index.html; Swedish Patent and Registration Office (ñPRVò), http://www.prv.se/english/default.html; Swiss Federal Institute of Intellectual Property (ñIGEò), https://www.ige.ch/en.html; Turkish Patent Institute, http://www.turkpatent.gov.tr/portal/default_en.jsp, United States Patent and Trademark Office (ñUSPTOò), http://www.uspto.gov; State Intellectual Property Office of the Peopleôs Republic of China (ñSIPOò), http://ip.people.com.cn/GB/152255/10957844.html; United Kingdom Intellectual Property Office, http://www.ipo.gov.uk/types/patent.htm.

[4] Patent Cooperation Treaty, June 19, 1970, 28.7 U.S.T. 7645, T.I.A.S. No. 8733 [hereinafter PCT], *available at* http://www.wipo.int/pct/en/texts/articles/atoc.htm; Strasbourg Agreement Concerning the International Patent Classification, Mar. 24, 1971, 26 U.S.T. 1793, *available at* http://www.wipo.int/treaties/en/classification/strasbourg/trtdocs_wo026.html [hereinafter Strasbourg Agreement]; Patent Law Treaty, June 1, 2000, 39 I.L.M. 1047 [hereinafter PLT], *available* at http://www.wipo.int/treaties/en/ip/plt/trtdocs_wo038.html.

ing from NPOs to the centralized-international forum of patent registration and protection.

It must be noted that my hypothesis in no way relates to the quality of the work that is done by NPOs. To say that the NPO is dispensable is not, necessarily, to say that it has failed or that it is a ñrubber stampò in the hands of other market actors. In addition to sounding like a simplistic assertion, research suggests that such a contention is false. According to Mark A. Lemley and Bhaven N. Sampat, the United States Patent Office (ñUSPTOò) is ñdoing a better job than many people think.ò[5] Lemley and Sampat have found that while the overall patent grant rate is held at 70%, the USPTO is not a rubber stamp because ñ[i]t rejects a small but nontrivial percentage of applications (15%ï 20%).ò[6] They also observe that the USPTO is actively engaged in limiting the scope of patent claims, thus rendering them more defined and effectively ñweeding out bad patents.ò[7] Further, Lemley and Sampat demonstrate that the USPTO produces different results for different industries. In particular, the USPTO appears to be more cautious with respect to ñthose industries that are most identified with bad patents (computer software, hardware, and business methods).ò[8]

However, establishing that the USPTO is not a rubber stamp does not provide sufficient cause for concluding that it is indispensable. First, the aforementioned research is limited to only one of many NPOs operating worldwideð the USPTO. As such, the research cannot (nor does it attempt to) provide any broad conclusions as to how other NPOs are functioning. Second, notwithstanding Lemley and Sampatôs empirical research, their findings have very little bearing on the question of how NPOs apply the international novelty and prior art thresholds. Therefore, even if I were to adopt Lemleyôs view that the USPTO is doing a ñgreat jobò,[9] it would still be logical to challenge the justifications of the

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5 Mark A. Lemley & Bhaven N. Sampat, *Is the Patent Office a Rubber Stamp?*, 58 EMORY L.J. 181, 201 (2008).

6 *Id.*

7 *Id.* at 202.

8 *Id.*

9 Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495 (2001). In that research, Lemley shows that the patent office need not spend more time and money weeding out bad patents. *Id.* at 1508ï 11. Using data regarding the cost and incidence of patent prosecution, litigation, licensing and other uses of patents, Lemley demonstrates that strengthening the examination process is not cost effective. *Id.* In his view, given that very few patents are actually litigated or licensed, society would be better off spending its resources in a more searching judicial inquiry into validity in those few cases in which it matters than paying for a more protracted examination of all patents *ex ante. Id.* at 1510ï 11. In

UPSTOôs existence in the face of changes taking place within the international innovation arena.

A. The Role of the National Patent Office in the Domestic Patent System

Virtually every country has some form of patent law and a NPO, whose primary role is to register patents within its jurisdiction.[10] Generally, for an invention to be protected in a certain country, its owner needs to comply with the requirements of the domestic system of registration administered by its respective NPO. The protection secured by patent registration in a particular country is only effective within that countryôs jurisdiction.[11] The NPO typically oversees the assessment of applications and granting of patents as well as some post-registration conflicts and miscellaneous issues such as renewal, abandonment, and cancellation.[12] More specifically, the NPO typically performs the following tasks:[13]

a. Examining applications for patents to determine eligibility for patent protection;[14]

b. Rendering decisions on competing applications (interference proceedings) (USPTO);[15]

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his view, the patent office has ñrational ignoranceò of the objective validity of the patents it issues. *Id.* at 1511.

10 *See* World Intellectual Property Organization, http://www.wipo.int/wipolex/en/ (last visited May 20, 2012) (text of patent laws around the world); *see also supra* note 3 (list of national patent offices).

11 In addition, some regions have regional industrial property offices that allow for the registration of an intellectual property right covering the entire relevant region. Examples of such regional offices are the Gulf Cooperation Council (ñGCCò) Patent Office, the European Patent Office, and the Eurasian Patent Office.

12 ñRenewal,ò ñabandonment,ò and ñcancellationò are terms that describe various circumstances that can generate the termination of a patent registration. Renewal maintenance fees, or renewal fees, are fees paid to maintain a granted patent in force. KHOURY, *supra* note 11, at 95, 98. Some patent laws require the payment of maintenance fees for pending patent applications. *Id.* at 98ï 99. Not all patent laws require the payment of maintenance fees and different laws provide different regulations concerning not only the amount payable but also the regularity of the payments. *Id.* at 111ï 25.

13 IBM BUSINESS CONSULTING SERVICES, ROLE OF NATIONAL PATENT OFFICES, THE EUROPEAN PATENT OFFICE, AS WELL AS THE JAPANESE AND US PATENT OFFICES IN PROMOTING THE PATENT SYSTEM: FINAL REPORT TO THE EUROPEAN COMMISSION (2003), *available at* http://ec.europa.eu/internal_market/indprop/docs/patent/ studies/offices_en.pdf.

14 *Id.* at 11.

15 KHOURY, *supra* note 11, at 69ï 70.

c. Rendering decisions on third-party objections (oppositions relating to the patent application);
d. Granting a patent if it determines that the applicant is entitled to such a patent;[16]
e. Publishing issued patents or publishing pending patent applications at 18 months from the earliest filing date;[17]
f. Recording assignments and licenses of patents;[18] and
g. Maintaining a database of issued patents and copies of records, for public use and patent examination.[19]

B. What the National Patent Office Does Not Do

Considering all of the information above, it is possible to conclude that the NPOôs role does not include the enforcement of patent rights or the standard-setting process of patent law. Both tasks are beyond the scope of the authority that has been delegated to the NPOs. Such actions are performed by other entities within a sovereign state (*i.e.*, courts, police, customs, and law firms).[20] Indeed, as I will demonstrate below, there are many tasks that remain beyond the mandate of the NPO. This fact supports my contention that the NPO is presently limited to specific segments of the patent protection mechanism.

1. Enforcement of Patent Rights

Once a patent is granted in a given jurisdiction, its lawful owner enjoys a wide scope of protection. Such protection typically encompasses various aspects including, but not limited to: (1) prima facie validity of the registered patent; (2) the right to prohibit others from using or registering a similar invention; (3) the right to claim and receive damages due to unauthorized use of the protected invention; (4) the right to receive interlocutory orders including the right to search the premises of the defendant; and (5) the right to seize any infringing goods or relevant evidence. Notably, these protections are not entrusted to the NPO, but rather are overseen and applied by civil, and in some cases criminal,

16 IBM, *supra* note 13, at 11.

17 KHOURY, *supra* note 11, at 69ï 70.

18 *Id.*

19 IBM, *supra* note 13, at 18.

20 In addition to the three types of entities mentioned above, intellectual property disputes may be settled by arbitrators, mediators, or international dispute settlement bodies. While arbitrators are required to decide the case after hearing both parties and considering the evidence that they have presented, mediators attempt to bridge the gap between the two parties.

courts in the relevant jurisdiction. The NPO does not oversee the actual implementation or protection of the patent rights, but rather is occupied with the procedures relating to the patenting of inventions. That is, the NPOôs function is relegated to administering patent laws as they relate to granting patents for inventions. Although through this function of the NPO directly bears on formulating patent law and the patentôs domain, the NPO is not directly involved in enforcement of patent law.

2. Setting Standards of Protection

As alluded to earlier, the standard of protection for patent rights is not determined by the NPO; rather, it is determined by lawmakers. That is not to say that the legislators in a certain country actually set the norms. On the contrary, in the patent arena and in the intellectual property realm in general, the content of national laws is directly influenced by internationally accepted standards to which courts adhere. Indeed, the intellectual property system has always had an international dimension. Professor Graeme Dinwoodie refers to this as the ñpublic international law of intellectual property.ò[21] In this regard, the two primary conventions containing the basic international standards of patent protection are the Paris Convention for the Protection of Industrial Property (ñParis Conventionò),[22] which was the first multilateral intellectual property agreement, and the Agreement on Trade-Related Aspects of Intellectual Property Rights (ñTRIPSò).[23] TRIPS has added vigor to patent protection in that it compelled all

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[21] Graeme B. Dinwoodie, *Developing a Private International Intellectual Property Law: The Demise of Territoriality?*, 51 WM. & MARY L. REV. 711, 713 (2009).

[22] Paris Convention for the Protection of Industrial Property, Mar. 20, 1883, as last revised at the Stockholm Revision Conference, July 14, 1967, 21 U.S.T. 1583, 828 U.N.T.S. 305 [hereinafter Paris Convention].

[23] Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, 1869 U.N.T.S. 299 [hereinafter TRIPS]. The Paris Convention is the first major multilateral international agreement dealing with industrial property and covering its different components including patents, industrial designs, trademarks and geographical indications. WIPO, *Summary of the Paris Convention for the Protection of Industrial Property (1883)*, http://www.wipo.int/treaties/en/ip/paris/ summary_paris.html (last visited Aug. 2, 2012) [hereinafter Paris Convention Summary]. In addition, the convention prescribes measures aimed at combating unfair competition. *Id.* The convention stands on three pillars. *Id.* The first, known as National Treatment, equates the rights of foreign owners of intellectual property with those of local owners. WIPO, WIPO INTELLECTUAL PROPERTY HANDBOOK: POLICY, LAW AND USE 242 (2d ed. 2004) [hereinafter WIPO Handbook]. The second principle, the right of priority, allows an applicant to claim the earliest date of filing when applying to register an industrial property in another member country. *Id.* at 242, 243. The third pillar is in the form of specific standards pertaining to the different types of industrial property covered by the conven-

World Trade Organization (ñWTOò) members to comply with mandatory minimum standards as prescribed by that agreement.[24] TRIPS prescribed various standards that all WTO member-states undertake to follow; further, member-states are to implement these standards in their national patent laws and enact laws that apply these standards.[25] Thus, these standard-setting agreements have become the norm with respect to patent protection on both the national and international levels. These international standards form an integral part of the rules that bind NPOs, but it is important to note that NPOs have no direct impact on formulating them. The international standards are beyond the control and influence of the NPO.

3. Combating Patent Infringement

In any given jurisdiction, it is typically the national court that adjudicates civil and criminal cases involving patent infringement. In the civil sphere, TRIPS-compliant patent laws accommodate rules of procedure that ensure fair and equitable procedures, evidence gathering, injunctions, and damages.[26] In this capacity, courts are also authorized to grant interlocutory and temporary relief through cease and desist orders, as well as search and seizure orders (referred to as *Anton Piller* type orders), in which the rightful owner is authorized to seize infringing goods as well as evidence relating thereto.[27] Similarly, crimi-

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tion. *Id.* at 242. The Paris Convention produced a host of treaties and agreements that address specific issues pertaining to industrial property protection and which are beyond the scope of this research.

24 TRIPS, *supra* note 23, art. 1:

> Members shall give effect to the provisions of this Agreement. Members may, but shall not be obliged to, implement in their law more extensive protection than is required by this Agreement, provided that such protection does not contravene the provisions of this Agreement. Members shall be free to determine the appropriate method of implementing the provisions of this Agreement within their own legal system and practice.

Id.

25 *Id.*

26 In this regard, civil courts are authorized to order the destruction of infringing goods or materials used to create them and to order the defendant to disclose details regarding suppliers and channels of distribution.

27 These proceedings are generally initiated by the intellectual property right-holder and are often granted ex parte. This type of order, dubbed the ñNuclear Weapon of the civil process,ò originates in common law. The order is named after the 1976 English case of *Anton Piller KG v. Manufacturing Processes Ltd.*, [1976] Ch. 55 (C.A.), although the first such reported order was granted by Templeman J. in *E.M.I. Limited v Pandit* [1975] 1 W.L.R. 302, in 1975.

nal proceedings can be brought before the courts against those who infringe patent rights.[28] In addition, various countries have established specialized police units whose duty is to combat patent infringement, as well as the infringement of other forms of intellectual property.[29] Furthermore, TRIPS has brought the role of customs to the forefront of intellectual property protection. All TRIPS-compliant intellectual property laws delegate to customs officials the authority to suspend the release of suspected counterfeit goods that are imported into their countries.[30] Thus, in my opinion, the enforcement of patent rightsð including the granting of interlocutory orders and search and seizure ordersð will not be negatively impacted if the NPO is taken out of the equation. The absence of NPOs will not diminish the ability of patent holders to combat patent infringement in any jurisdiction; on the contrary, once an international patent registration is granted, defendants will be unable to turn to their own NPO in order to attack the registration.

C. Substituting the National Patent Office in Patent Prosecution Related Activities

In addition to the fact that the NPO plays a small role in the broad international patent mechanism, it is important to show that there are entities that can act as effective substitutes for NPOs. Two international organizations play an integral role in the enforcement and protection of intellectual property and the administration of related agreements: the World Intellectual Property Organization (ñWIPOò)[31] and the World Trade Organization (ñWTOò).[32]

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28 TRIPS, *supra* note 23, art. 61. However, such procedures are contingent upon providing sufficient evidence to substantiate the complaint. *Id.* at art. 41. A host of remedies might be provided in the case of criminal procedures including fines, imprisonment, and seizure and destruction of infringing goods. *Id.* at art. 61. In some countries, intellectual property laws authorize the police to act upon a complaint that is lodged by the holder of an intellectual property right. In most countries, the police do not initiate action against suspected infringers of intellectual property rights; rather, enforcement of intellectual property rests predominantly on the shoulders of the intellectual property right holder, who is expected to initiate proceedings and to lodge complaints.

29 In some countries, (*e.g.*, in Asia as well as Israel) these units are authorized to carry out raids if and when a complaint is lodged by a right holder. Assafa Endeshaw, *Intellectual Property Enforcement in Asia: A Reality Check*, INTô L J.L. LAW & INFO. TECH. 378, 378ï 412 (2005).

30 *See* TRIPS, *supra* note 23, arts. 51ï 59, 69.

31 WIPO, an agency of the United Nations, has been delegated the task of promoting the protection of intellectual property throughout the world. WIPO Handbook, *supra* note 23, 3ï 5.

32 In addition to the two primary organizations, namely WIPO and the WTO, there is a special union of states that is a member in the International Union for the Protection of New Varie-

WIPO administrates various unions of states that are members to specific multilateral treaties administered by WIPO. WIPO also advances various models of intellectual property laws for use by developing countries[33] and for adjudicating intellectual property disputes.[34] The WTO, the most influential trade organization in the world today, aims to secure the free flow of trade across international borders, to serve as a forum for trade negotiations, and to provide a mechanism for settling disputes among member states. The WTO administers a number of agreements that regulate all aspects of international commerce, including the TRIPS Agreement.[35] In this section, I shall show that the combination of the two organizations can, and does, provide an effective and complete substitute for the logistic-procedural role of the NPO.

It is also worth mentioning that some states have already agreed to surrender some of their patent examination sovereignty to external market actors. The most vivid example of this is the European Patent Office (ñEPOò). The

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ties of Plants. International Convention for the Protection of New Varieties of Plants, Dec. 2, 1961, 33 U.S.T. 2703, 815 U.N.T.S. 89 [hereinafter UPOV]. This Convention establishes rules and mechanisms for the protection of breeders of new plant varieties. *Id.* at art. 1. UPOV aims to protect the rights of growers in new plant varieties and in new methods of plant breeding. *Id.* at art. 1; *see* UPOV, *Mission Statement*, http://www.upov.int/about/en/mission.html (last visited Aug. 2, 2012).

33 Apart from the UPOV and TRIPS, WIPO administers all of the agreements detailed below. Furthermore, WIPO seeks to promote cooperation, with respect to intellectual property, among its member states.

34 It is worth noting that WIPO also plays a role in dispute settlement in other IP fields; for example, WIPO has a hand in settling Domain Name disputes. Disputes surrounding the use of brands and marks as domain names are also beyond the jurisdiction of NPOs. Despite the fact that they register brands, NPOs do not intervene in these types of conflicts; such conflicts are referred to either national courts or, ever increasingly, to WIPOôs Uniform Domain Name Dispute Resolution Policy (ñUDPRò). WIPO Handbook, *supra* note 23, at 234. The international dispute settlement bodies, established in accordance with international agreements, are required to settle disputes relating to intellectual property that may arise between private parties or governments. *Id.* at 234ï 35. In this regard, the WIPO Arbitration and Mediation Center plays a central role. *Id.* at 234. Among other things, WIPO handles a large bulk of disputes involving Internet domain names. *Id.* at 232.

35 TRIPS is one of the products of the Uruguay Round of the General Agreement on Tariffs and Trade (ñGATTò) negotiations, concluded in 1994 at Marrakech. WIPO Handbook, *supra* note 23, at 345. These negotiations produced the World Trade Organization (ñWTOò). *Id.* TRIPS prescribes internationally agreed minimal standards of protection for patents, copyrights, trademarks, industrial designs, trade secrets, geographical indications, as well as new intellectual property subject matter such as pharmaceutical products, computer software and integrated circuits. TRIPS, *supra* note 23, art. 1. TRIPS compels member states to provide within their national legislation clear procedures and safeguards for the protection of intellectual property. *See id.*

EPO was established by the European Patent Convention of 1973, to synergize the rules pertaining to the issuance of patents that are valid throughout the European Union. The treaty harmonizes standards pertaining to criteria for patentability, duration, conversion to national patents and grounds of invalidity. However, the treaty does not promote integrated enforcement measures against the infringement of patents.[36]

1. "International" Patent Registration

WIPO administers the Patent Cooperation Treaty (ñPCTò), which is intended to facilitate patent registration in member states around the world. The PCT enables citizens of any country that is a member of this treaty to seek patent protection in any or all of the other countries (ñdesignated statesò), through a single ñinternationalò patent application.[37] The process at the center of this mechanism involves filing applications in a central receiving office that ultimately forwards them to the NPOs of the ñdesignatedò countries where the owner of an invention seeks protection.[38] In the context of the international registration of patents, NPOs have become increasingly marginalized *de facto* if not *de jure*. This is primarily due to the fact that the PCT facilitates the conduct of a preliminary search[39] and, in some cases, a ñpreliminary examinationò[40] of patent applications. These proceedings are carried out by specific NPOs acting in their respective capacities as International Search Authority (ñISAò)[41] or International Preliminary Examination Authority (ñIPEAò).[42] Only at the conclusion of the first phase is the application sent to all of the designated NPOs (the ñnational phaseò).[43]

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36 Dr. Daniel Goldstein has observed that the European Commission has advanced patent collaboration among union members by adopting the Single Market Act. Daniel M. Goldstein, Senior Patent Attorney, Sanford T. Colb & Co., *Choosing the Golden Mean: Patent Management and Assessment in Unpredictable Times*, Special Presentation at ILSI-BIOMED 2011 (May 24, 2011). This Act has effectively established a unitary patent protection and unified patent litigation system in the European Union. *Id.*

37 According to the PCT, the ñinternationalò application can be filed with the IPO (or with a regional patent office). PCT, *supra* note 4, art. 10.

38 *Id.* at art. 13.

39 PCT, *supra* note 4, arts. 15ï 18.

40 *See id.* at ch. II.

41 *Id.* at art. 16.

42 *Id.* at art. 32.

43 WIPO Handbook, *supra* note 23, at 278.

Although each designated patent office ultimately examines the application independently, most are inclined to act in line with findings of the ISA and IEA. In fact, most NPOs will accept an application that has successfully overcome both hurdles. This outcome is quite logical given that the conditions for accepting a patent application (namely, novelty and non-obviousness) are applied in all TRIPS-compliant patent laws. In practice, the novelty condition is applied by most NPOs around the world and in accordance with the standards that have been set by that agreement. Accordingly, the novelty requirement is of an international nature; that is, each NPO that commences examination of an application is also expected to rule out the existence of the relevant claimed innovation anywhere in the world. It follows that in reality each NPO would, at the end of the day, be carrying out the same task as most of its peer offices. This leads to an unnecessary overlap in resources and raises fears of unnecessary costs and the risk of reaching contradictory findings.

As such, there is no need to refer a patent to NPOs after it has been found fit by the ISA and after successfully navigating the preliminary examination. In essence, the PCT simplifies the application process relating to the international registration of patents and makes it cheaper and more efficient. Furthermore, the PCT system provides the patent owner a longer span of timeð up to thirty monthsð before the national phase begins (*i.e.*, before filing patent applications in each of the countries where protection is sought).[44] This extension allows the owner of a patent more leeway to calculate the potential patentability and commercial success of his invention and allows him to withdraw his application before incurring unnecessary costs. Thus, the PCT system simplifies the application process (one international application for all designated countries) and saves the owner of the invention from having to pay separate application fees in each of the designated countries. In addition, the PCT can simplify renewal procedures by renewing all registrations on the same day and through a single application. The benefits of the PCT are enhanced by the Patent Prosecution Highway (ñPPHò), whereby patent offices rely during patent examination on each otherôs findings and on the findings from the international phase, to accelerate examination of corresponding patent applications.[45]

It is worth noting that similar models of international registration exist for other industrial property subject matter, namely marks and industrial de-

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44 PCT, *supra* note 4, at art 22; s*ee* WIPO Handbook, *supra* note 23, at 282; Sandra P. Thompson, *The Patent Application Superhighway: Opportunities to Fast-Track Patent Applications*, 6 INDUS. BIOTECHNOLOGY 22, 24 (2010).

45 Thompson, *supra* note 44, at 22; *see* Jeremy Phillips, *Outsourcing of IP Office Functions: No Longer a Joke*, 5 J. INTELL. PROP. L. & PRAC., 389, 389 (2010).

signs.[46] It is sufficient to mention The Madrid Agreement and Protocol for the International Registration of Marks, the Hague Agreement Concerning the International Deposit of Industrial Designs,[47] and the Geneva Act of the Hague Agreement Concerning the International Registration of Industrial Designs.[48]

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[46] Protocol Relating to the Madrid Agreement Concerning International Registration of Marks, June 27, 1989, 116 Stat. 1915 [hereinafter Madrid Protocol]; Madrid Agreement Concerning the International Registration of Marks, Apr. 14, 1891, 828 U.N.T.S. 390 [hereinafter Madrid Agreement]. Both the Madrid Agreement and the Madrid Protocol provide a system whereby the owner of a mark can register his mark in any or all member states by filing a single application with the International Bureau of WIPO through the national trademark office in his home country. Madrid Protocol, arts.2ï 3; Madrid Agreement, arts. 1, 3. If the international application meets formal requirements, it is published in the gazette of international marks and then sent to each of the designated trademark offices where the mark is examined in accordance with the respective national trademark law. Madrid Protocol, art. 3; Madrid Agreement, art. 3. Each national office may accept or reject the application or issue a conditional acceptance of the application according to its national law. Madrid Protocol, art. 3; Madrid Agreement, art. 3. If a trademark office in one of the designated states does not respond, the application is considered to have been accepted by that trademark office. Thus, the Madrid system simplifies the application process (one application for all designated countries) and saves the owner of the mark from having to pay separate application fees in each of the designated countries, and simplifies renewal procedures (all registrations renewed on the same day and through a single application for renewal). Madrid Protocol, arts. 2, 7. The Protocol provides a more flexible system of operation that is intended to encourage more countries to join the Madrid system. For example, the Protocol allows an international application to be based on a pending applicationð rather than just an existing registrationð in the country of origin, and it recognizes English and Spanish as working languages in addition to the existing French. *Id.* at arts. 2, 16.

[47] Hague Agreement Concerning the International Deposit of Industrial Designs and Models, June 2, 1934, 205 L.N.T.S. 179, as amended at the Hague, Nov. 28, 1960 [hereinafter Hague Agreement]. The Hague system allows the owner of an industrial design to receive recognition for his right in his industrial design in countries designated by him, this without him having to register the industrial design in each of those countries separately. *Id.* at art. 5. This is done through a procedure of ñinternational depositò with the International Bureau of WIPO. *Id.* at art 4. The deposited industrial design is published by WIPO in the industrial designs bulletin and then sent to the countries that are designated by the applicant. *Id.* at art. 6. Each one of those countries has six months in which to respond to the application. *Id.* at art. 8. If the country accepts the application then the industrial design is protected for up to ten years. *Id.* at art. 11.

[48] Geneva Act of the Hague Agreement Concerning the International Registration of Industrial Designs, Nov. 6, 1925, (amended July 2, 1999) [1992] 2279 U.N.T.S. 3 [hereinafter Geneva Act]. The Geneva Act renders the Hague system more appealing to countries, especially those that conduct a novelty examination because it extends the response time to one year and allows member-states to set higher fees. *Id.* at art. 7. In addition, the applicant enjoys an extended period of 30 monthsð instead of the existing 12 monthsð to delay publication of his industrial design. *Id.* at art. 11.

Furthermore, the rising rate of PCT applications provides a clear indication of the success of this system.[49] I would even contend that the PCT is set to become the predominant and, in time, the sole method of filing a patent application.[50]

2. Harmonization of Industrial Property Documentation

Another group of intellectual property agreements is aimed at creating a standardized and unified system of applications for all member states. Under these agreements, an applicant seeking to register his intellectual property in multiple jurisdictions would only need to file one type of documentation and comply with similar formalities. This renders the registration process cheaper and more efficient. The Trademark Law Treaty (ñTLTò),[51] the Singapore Trea-

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[49] *See* Jay Erstling & Isabelle Boutillon, *The Patent Cooperation Treaty: At the Center of the International Patent System*, 32 WM. MITCHELL L. REV. 1583 (2006) (discussing the procedures that make the PCT system work and the reasons for its success). Erstling and Boutillon observe that,

> [i]n view of the fact that the PCT is composed of almost 130 countries and that more than 100 national and regional patent offices, as well as WIPO itself, perform PCT functions, it is remarkable that the system operates so smoothly and continues to gain momentum. Perhaps the systemôs greatest strength comes from the immense diversity of legal, linguistic, and national cultures that constitute the PCT. While the system has served to harmonize divergent practices, it has also been obliged to accommodate to the sometimes inflexible peculiarities of national law and procedure. The PCTôs ability to strike a balance between the two has proven to be one of the systemôs greatest accomplishments. As the PCT looks to the future, it is also one of its most daunting challenges.

Id. at 1600ï 01.

[50] WIPO, PCT: THE INTERNATIONAL PATENT SYSTEM YEARLY REPORT 38 tbl.9 (2008), http://www.wipo.int/export/sites/www/pct/en/activity/pct_2008.pdf. *See* VIVEK WADHWA, ET AL., U.S.-BASED GLOBAL INTELLECTUAL PROPERTY CREATION: AN ANALYSIS (2007), *available at* http://ssrn.com/abstract=1026448. In this regard the authors assert that:

> [t]he Patent Cooperation Treaty (PCT), concluded in 1970, offered a means for inventors to safeguard their intellectual property in multiple countries with a single application. This global effort to streamline the process of achieving international intellectual property protection evidences the importance of this protection in todayôs economy. International intellectual property rights ensure that creators can reap the rewards of their endeavors, encouraging future innovation and, ultimately, economic growth.

Id. at 2.

[51] The TLT introduces simplified and harmonized procedures for the registration of trademarks. Trademark Law Treaty, 2037 U.N.T.S. 35, Oct. 27, 1994 [hereinafter TLT]. Specifically, the

ty, and the Patent Law Treaty (ñPLTò)[52] are classic examples of such agreements. Here again, NPOs are sidelined. As these agreements become the norm, NPOs will lose their ability to determine the form of documentation that they apply and would adopt unified forms that have been created outside their respective jurisdiction.

Notwithstanding the above, it is worth noting that the TLT and PLT do not have a wide membership base, especially among states that are influential in the brandings and innovations arenas.[53] This derives from two main reasons. The first relates to the cost of shifting away from the existing ñnationalò system of documentation and procedures.[54] The second reason hinges upon the fact that NPOs are generally reluctant to work with unified documentation because they perceive this to be a potential threat to their respective national sovereignty and national economic needs. Indeed, not all view the role of the PLT as a positive one. Opponents warn against the introduction of a more vibrant PLT in the form of a Substantive Patent Law Treaty (ñSPLTò).[55] They see such an agreement as premature primarily because developing countries are still struggling to adjust to the heightened standards of intellectual property protection required by the TRIPS Agreement.[56] According to Professors Reichman and Dreyfuss ñ[a]

TLT determines the procedures and documentation that NPOs (and regional trademark offices) can and cannot use with respect to trademark applications, changes in name, address, and ownership. *Id.* In addition, the TLT prescribes rules regarding power of attorney forms and renewal of trademark registrations. *Id.* at arts. 13, 22.

52 Singapore Treaty on the Law of Trademarks, Mar. 28, 2006, S. Treaty Doc. No. 110-2.

53 *See Treaties Statistics: Patent Law Treaty*, WIPO, http://www.wipo.int/treaties/en/statistics/StatsResults.jsp?treaty_id=4 (last visited Aug. 2, 2012) [hereinafter *PLT Statistics*]; *Treaties Statistics: Trademark Law Treaty*, WIPO, http://www.wipo.int/treaties/en/statistics/StatsResults.jsp?treaty_id=5 (last visited Aug. 2, 2012) [hereinafter *TLT Statistics*]. In 1996, membership in TLT stood at six members. *TLT Statistics*. Today, that number has risen to forty-nine members. *Id.* Also, in 2005 membership in PLT stood at eleven members. *PLT Statistics*. Today, that number has risen to thirty members. *Id.*

54 Anthony D. Sabatelli, *Impediments to Global Patent Law Harmonization*, 26 J. MARSHALL L. REV. 497 (1992ï 93).

55 WIPO, Draft Substantive Patent Law Treaty, WIPO Doc. SCP/10/2 (Sept. 3, 2003) [hereinafter SPLT Draft 2003]. The SPLT has been through several drafts. *See* WIPO, Draft Substantive Patent Law Treaty, WIPO Doc. SCP/9/2 (Mar. 3, 2003); WIPO, Draft Substantive Patent Law Treaty, WIPO Doc. SCP/8/2 (Oct. 16, 2002); WIPO, Draft Substantive Patent Law Treaty, WIPO Doc. SCP/7/3 (Mar. 6, 2002); WIPO, Draft Substantive Patent Law Treaty, WIPO Doc. SCP/6/2 (Sept. 24, 2001); WIPO, Draft Substantive Patent Law Treaty, WIPO Doc. SCP/5/2 (Apr. 4, 2001).

56 *See* Jerome H. Reichman & Rochelle Cooper Dreyfuss, *Harmonization Without Consensus: Critical Reflections on Drafting a Substantive Patent Law Treaty*, 57 DUKE L.J. 85 (2007)

free-standing instrument, such as the SPLT, would shrink the remaining flexibilities in the TRIPS Agreement with no side payments and no concessions to the catch-up strategies of developing countries at different stages of technological advancement.ò[57] However, this position does not undermine my proposed model simply because my observations are intended to mimic the actual cooperation on the ground. The facts are that innovators seek protection beyond their borders and that such a harmonized system will assist newcomers in obtaining patent protection around the world for much less than they would pay within the current framework.

3. Classification of Knowledge through Patent Classification

Classification agreements provide a predetermined system of categorization for trademarks, industrial designs, or patents. Understandably, the system simplifies the filing process, especially when multiple applications are involved. The Strasbourg Agreement Concerning the International Patent Classification (ñStrasbourg Agreement,ò commonly referred to as the ñIPC Agreementò)[58] and the Nice Agreement Concerning the International Classification of Goods and Services for the Purposes of Registration of Trademarks (ñNice Agreementò)[59] are classic examples of these agreements. Other agreements in

(arguing that the proposed SPLT would negatively impact both developing and developed countries).

57 *Id.* at 85.

58 Strasbourg Agreement, *supra* note 4. The Strasbourg Agreement established a system of classificationð the International Patent Classification (ñIPCò)ð which classifies patents into eight broad categories and 63,000 subcategories. *International Patent Classification Guide (Version 2012)*, WIPO, ¶ 19, http://www.wipo.int/classifications/ipc/en/guide/guide_ipc.pdf [hereinafter *Guide to the IPC*]; *Frequently Asked Questions About the IPC*, WIPO www.wipo.int/classifications/ipc/en/faq/index.html (last visited Aug. 2, 2012) [hereinafter *IPC FAQs*]. In addition to unifying the classification system among member states, the agreement makes it easier for a prospective applicant or an industrial property office conducting a patent search to identify ñprior artò that may affect the patentability of the new invention.

59 Nice Agreement Concerning the International Classification of Goods and Services for the Purposes of Registration of Trademarks, June 15, 1957, 23 U.S.T. 1336, 550 U.N.T.S. 45 [hereinafter Nice Agreement]. The Nice Agreement has successfully established a system of classification that is used by about 140 countries and organizations around the globe. *Nice Classification FAQs*, WIPO, http://www.wipo.int/classifications/nice/en/about_the_ncl/faq.html (last visited Aug. 2, 2012). The Nice classification comprises 45 classes: the first 35 classes cover goods, and the remaining classes cover services. This harmonized system of classification simplifies the registration and use of trademarks around the world. *Summary of*

this group include the Vienna Agreement Establishing an International Classification for the Figurative Elements of Marks (ñVienna Agreementò)[60] and the Locarno Agreement Establishing an International Classification for Industrial Designs (ñLocarno Agreementò).[61]

All states belonging to any of these classification agreements agree to implement the relevant classifications into their system of marks and industrial designs. In fact, as of 2011, a total of eighty-three countries follow the Nice classification relating to trademarks and sixty-one countries follow the Strasbourg classification relating to patents.[62]

The proliferation of these agreements reflects the increasing international utilization industrial property and intellectual property generally in the economy and in trade, which has prompted the international community to create uniform rules of classification. Notably, in light of these agreements pertaining to classification, the rules by which marks, patents, and designs are classified are merely applied by, not determined by, NPOs. As alluded to earlier, the relevant classification agreement in the context of patents is the Strasburg Agreement. This Agreement, to which sixty-two countries are now party, is used by the patent offices of more than one hundred countries as well as four regional offices and the secretariat of WIPO under the PCT.[63] The IPC has proved its

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the Nice Agreement Concerning the International Classification of Goods and Services for the Purposes of the Registration of Marks, WIPO, http://www.wipo.int/classifications /nice/en/ (last visited Aug. 2, 2012).

60 Vienna Agreement Establishing an International Classification of the Figurative Elements of Marks, June 12, 1973, 1863 U.N.T.S. 318. The Vienna Agreement introduced a classification system comprising 29 classes for marks that consist of or contain ñfigurative elements,ò which includes geometric figures that are used as trade symbols. *Summary of the Vienna Agreement Establishing an International Classification of the Figurative Elements of Marks (1973)*, WIPO, http://www.wipo.int/treaties/en/classification/vienna/summary_vienna.html (last visited Aug. 2, 2012).

61 Locarno Agreement Establishing an International Classification for Industrial Designs, Oct. 8, 1968, 8 I.L.M. 1 [1997]. The Locarno Agreement created a system of classification for industrial designs comprising 32 classes and 223 subclasses. *Summary of the Locarno Agreement Establishing an International Classification for Industrial Designs (1968)*, WIPO, http://www.wipo.int/treaties/en/classification/locarno/summary_locarno.html (last visited Aug. 2, 2012).

62 *See Treaties Statistics: Nice Agreement*, WIPO, http://www.wipo.int/treaties/en/statistics/ StatsResults.jsp? treaty_id=12 (last visited Aug. 2, 2012) [hereinafter *Nice Agreement Statistics*]; *Treaties Statistics: Strasbourg Agreement*; WIPO, http://www.wipo.int/treaties/en/ statistics/StatsResults.jsp?treaty_id=11 (last visited Aug. 2, 2012) [hereinafter *Strasbourg Agreement Statistics*].

63 *Strasbourg Agreement Statistics*, *supra* note 62; WIPO, *Summary of the Strasbourg Agreement Concerning the International Patent Classification (1971)*, WIPO, http://www.wipo.int/

worth in the retrieval of patent documents when searching for prior art (references which can be cited against a patent application). It is widely used by patent-issuing authorities, inventors, research and development units, and others concerned with the application or development of technology. The IPC is dependable because it is continuously revised.[64] This classification is open to all countries that are member of the Paris Convention.[65] English and French are the working languages of that agreement.[66] As such, this system of classification facilitates ñan effective search tool for the retrieval of patent documents by patent offices and other users, in order to establish the novelty and to evaluate the inventive step or non-obviousness (including the assessment of technical advance and useful results or utility) of technical disclosures in patent applications.ò[67] Furthermore, the IPC can be utilized to achieve other goals, namely ñto facilitate access to the technological and legal information containedò in patent documents.[68]

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treaties/en/classification/strasbourg/summary_strasbourg.html, (last visited Aug. 2, 2012) [hereinafter *Strasbourg Summary*]. The PCT established a system for attaining multiple registrations of patents around the world through the WIPO International Bureau. *Summary of the Patent Cooperation Treaty (1970),* WIPO, http://www.wipo.int/treaties/en/ registration/pct /summary_pct.html (last visited Aug. 2, 2012) [hereinafter PCT Summary].

64 *Strasbourg Summary*, *supra* note 63. The current ninth edition came into being on January 1, 2009. Revisions are conducted by a Committee of Experts in which all member states are represented. *Guide to the IPC*, *supra* note 58, at 2; *Strasbourg Summary*, *supra* note 63.

65 *Strasbourg Summary*, *supra* note 63.

66 Strasbourg Agreement, *supra* note 4, at art. 3(1). Pursuant to Article 3(2) of the Strasbourg Agreement, official texts of the Classification may be established in other languages. *Id.* at art. 3(2).

67 *Guide to the IPC*, *supra* note 58, at 1:

> The text of the first edition of the Classification was established pursuant to the provisions of the European Convention on the International Classification of Patents for Invention of 1954. Following the signing of the Strasbourg Agreement, the International (European) Classification of Patents for Invention, which had been published on September 1, 1968, was as of March 24, 1971, considered and referred to as the first edition of the Classification.

Id.

68 *Id.* From 1974ï 2005, the IPC has been revised periodically to improve the system and to take account of technical developments. *Id.* at 2. Following the conclusion of its reform in 2005, the IPC was divided into core and advanced levels. *Id.* Specifically, the core level is updated once every three years, and the advanced level is revised continually. *Id.* The IPC is sufficiently detailed to allow for a precise classification of all patentable subject matter. The IPC provides a detailed hierarchal structure of classification. The pinnacle of that hierarchy comprises 8 broad sections. *Id.* at 3. Overall, the IPC creates approximately 63,000 subdivisions. *IPC FAQs*, *supra* note 58. As such, the IPC provides an internationally uniform classification of patent documents and functions as ñan effective search tool for the retrieval of

The findings of this paper, thus far, show that on the procedural-logistical level, the international patent system has now come to dominate the scene to such an extent that the relevance of NPOs has now been diminished to futility. Having established that the NPO is procedurally-logistically dispensable, the next challenge is to show that NPOs have institutional substitutes. In view of the international novelty requirement, the need for patent examination on the national level is not crucial. Once a competent search authority has determined international novelty, there is no longer an acute need to conduct a patent examination at the national level. With that being said, even though novelty is arguably objective, the standards for obviousness vary considerably among countries. This is not simply technical; rather, it reflects a values-based decision regarding the extent to which an intellectual contribution deserves twenty years of monopoly. Furthermore, some NPOs (mostly in developing countries) are not examining officesð they have neither the financial resources nor the manpower to conduct patent searches. By showing that the tasks typically conducted by NPOs are mirrored by the international patent system, it may be possible to conclude that as far as procedural and logistical issues are concerned, NPOs are dispensable.

However, as alluded to earlier, this condition, although necessary for the transition, is not sufficient. In fact, far more important issues of a substantive and normative nature persist. Here, the question is not if NPOs are dispensable but rather, if it is a good idea to eliminate them and to shift to a full-fledged international patent office that would form the basis of the proposed international patent system. The next section is devoted to addressing this question.

II. SHOULD THE NATIONAL PATENT OFFICE BE DISCARDED?

In the previous chapter, I have demonstrated that the NPO is dispensable, meaning that all of its tasks can be conducted within an IPS. However, one question persists, namely, should the IPS replace NPOs altogether? This question is of relevance given that the conventional patent system is still highly dependent on NPOs. Indeed, despite the international elements in place, the conventional patent system has remained territorial in nature and in implementation. To register a patent in a certain territory, the patentôs patentability must still be clearly determined therein. Effectively, NPOs still function as receiving offices

patent documents by intellectual property offices.ò *Guide to the IPC*, *supra* note 58, at 1. The IPCôs other goals include the creation of a ñbasis for selective dissemination of information to all users of patent information; . . . investigating the state of the art in given fields of technology; [and . . .] the preparation of industrial property statistics which in turn permit the assessment of technological development in various areas.ò *Id.*

and are still delegated the task of examining the application and determining its patentability within their respective jurisdictions.

A. The National Patent Office as a Protector of National Sovereignty

It is accepted that the novelty and non-obviousness requirements are a central prerequisite of the patent examination process.[69] By invoking this condition, patent examiners can single out innovations that are worth protecting because of their contribution to scientific progress. Indeed, there is no logic in awarding a patent grant for technology that already exists. This condition constitutes a crucial component of the ongoing attempt not to place technology into the scope of the private domain if it is already nestled within the public domain. The novelty test is conducted against the backdrop of a first-to-file rule. This means that the first person to file an invention in a given territory, and whose invention does not appear in the existing prior art and is not obvious, will be awarded patent protection in that territory. It is worth noting that the first-to-file system, which is the dominant system for registration, is not the only possible system. In fact, until enactment of the America Invents Act, the United States utilized a first-to-invent system. In the United States, rights were awarded based on the date of the invention rather than the actual date of filing. But this state of affairs does not stand in the way of an IPS because the first-to-invent system is not being utilized in practice. Dennis D. Crouch has demonstrated through an extensive empirical study that very few applicants actually attempt to assert prior-invention rights in the U.S.[70] According to his findings, only one in every thousand applications utilized an assertion of first-to-invent that directly led to an issued patent.[71]

Consequently, it would appear that efforts to bring the U.S. patent system into conformity with the rest of the world have merit and would mimic the way things are being done on the ground. In fact, this process is currently well

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69 Sean B. Seymore, *Rethinking Novelty in Patent Law*, 60 DUKE L.J. 919, 930, (2010); *see* Benjamin N. Roin, *Unpatentable Drugs and the Standards of Patentability*, 87 TEX. L. REV. 503, 505 (2009) (ñThe novelty and nonobviousness requirements make no concession for the development costs of inventions and thus cause patents to be withheld from drugs that are unlikely to reach the public without that protection.ò).

70 Dennis D. Crouch, *Is Novelty Obsolete? Chronicling the Irrelevance of the Invention Date in U.S. Patent Law*, 16 MICH. TELECOMM. & TECH. L. REV. 53, 59 (2009).

71 *Id.* Crouch bases his research on three sources, namely: ñthe prosecution history files of 21,000+ patent applications filed in the past decade; a survey of 1,000+ patent practitioners regarding their use of the novelty provisions of the Patent Act; and a collection of 11,000,000+ prior art references cited in recently-issued patents.ò *Id.*

underway and can largely be attributed to the America Invents Act,[72] which provides a transition from the ñfirst-to-inventò to the ñfirst-to-fileò system.[73]

B. The National Patent Office as Guardian of Traditional Knowledge

Another possible objection to the initiation of a full-fledged international patent system is the concern that such a system would weaken protection of traditional knowledge.[74] Traditional knowledge includes a broad range of subject matter such as ñtraditional agricultural, biodiversity-related and medicinal knowledge and folklore.ò[75] According to Professor Daniel J. Gervais, traditional knowledge is progressively taking center stage in global discussions concerning intellectual property and trade.[76] In his view, this phenomenon hinges on two factors: ñ[f]irst, a large number of countries believe that up to now they have not derived great benefits from 'traditional' forms of intellectual property, yet find themselves rich with traditional knowledge, especially genetic resources and folklore.ò[77] The Gervaisô second factor relates to the growing political importance of aboriginal communities in several countries.[78] Given the nature of traditional knowledge, it is not surprising that traditional knowledge should come into direct confrontation with the rationales of patent registration and protection. According to Gervais,

> [e]xpressions of folklore and several other forms of traditional knowledge do not qualify for protection because they are too old and are, therefore, in the public domain. Providing exclusive rights of any kind for an unlimited period of time would seem to go against the principle that intellectual property can be

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72 Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (to be codified at 28 U.S.C. § 1295(a)(1) [hereinafter America Invents Act].

73 *Id.* at § 3. In addition to the first to invent rule, the Act also allows third parties to submit prior art during examination and allows for post-grant review for nine months. This post-grant opposition procedure would allow any party to challenge a patent after it is issued. *Id.* at § 6; *see* Michael A. Carrier, *Post-Grant Opposition: A Proposal and a Comparison to the America Invents Act*, 45 U.C. DAVIS L. REV. 103. (2011) (proposing a process for implementing the post-grant opposition process and highlighting the benefits of post-grant opposition).

74 *See* Daniel J. Gervais, *The Internationalization of Intellectual Property: New Challenges from the Very Old and the Very New*, 12 FORDHAM INTELL. PROP., MEDIA & ENT. L.J., 929, 959ï 60 (2002).

75 *Id.* at 955.

76 *Id.*

77 *Id.* at 956.

78 *Id.*

> awarded only for a limited period of time, thus ensuring the return of intellectual property to the public domain for others to use.[79]

Many of those in favor of strong protection for traditional knowledge hold the view that the ñutilization of traditional knowledge, associated biological and genetic resources, and the acquisition of intellectual property rights on inventions derived from such knowledge or resources without providing for benefit-sharing with the individuals or community that provided the knowledge or resourcesò is regarded as ñbiopiracy.ò[80] Despite this rhetoric, Gervais is optimistic that the exclusionary effect of the patent system ñmay be dealt with by relatively minor changes to current practices.ò[81] In this regard, Gervais proposes that in the context of ñdrugs or other products that are derived from traditional knowledge sources, prior art searches could include traditional knowledge sources to ensure that the invention is indeed novel and non-obvious as required by patent laws worldwide.ò[82]

In light of these constraints involving traditional knowledge vis-à-vis the conventional patent system, it is possible to conclude that traditional knowledge cannot be protected by virtue of a patent registration system whether domestic or international, but needs to find refuge in other laws or treaties.[83]

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79 *Id.* at 957 (footnote omitted).

80 Daniel J. Gervais, *The Internationalization of Intellectual Property: New Challenges from the Very Old and the Very New*, 12 FORDHAM INTELL. PROP., MEDIA & ENT. L.J., 929, 961 (2002).

81 *Id.*

82 *Id.*

83 *Id.* at 960. Gervais alludes to the need to provide a distinct type of protection for traditional patents by denoting the rift that exists *a priori* between it and the patent system: ñIn sum, the negative exclusionary effect of the current intellectual property system (which generally does not protect traditional knowledge as such for the reasons mentioned above) is compounded by a positive exclusionary effect because intellectual property rights are acquired by non-traditional knowledge holders to exclude their pre-existing rights.ò *Id.* Gervais further proposes various solutions for trade secrets and geographical indications, communal property, unjust enrichment, misappropriation, and contracts. *Id.* at 967ï 70, 972ï 75. Notably, TRIPS prescribes conditions under which certain biological materials or intellectual innovations may be ineligible for patent protection. TRIPS, *supra* note 23, at art. 27, ¶ 3(b). Indeed, enforcement of the Doha Declaration has focused on the relationship between the TRIPS Agreement, the Convention on Biological Diversity (ñCBDò), and the protection of traditional knowledge and folklore. Doha Declaration, ¶ 19, Nov. 14, 2001; Convention on Biological Diversity, June 5, 1992, 31 I.L.M. 818 [hereinafter CBD]. The CBD, signed at the United Nations Conference on Environment and Development (ñUNCEDò) in 1992, was the first international environmental convention to develop measures for the use and protection of traditional knowledge, related to the conservation and sustainable use of biodiversity. By 2006, 188

Notwithstanding its importance, the traditional knowledge issue does not constitute an obstacle to my proposed shift from an NPO-based system to an IPS. Neither domestic nor international registration can provide protection for traditional knowledge rights, and their protection needs to be found elsewhere, namely in specifically tailored laws and treaties.[84]

C. The National Patent Office as the Defender of National Access to Technology

Another possible argument against the shift to an IPS has to do with the NPOôs role as a defender of national technology. Here, the argument supporting the continued existence of the national patent office is stronger than those considered above. This argument suggests that in addition to securing patent protection within the territory, NPOs also secure *access* to patent protection in that territory. In this regard, the NPO is portrayed as a national asset rather than a national liability. It is a shield in the face of foreign technological dominance. In this context, Professor Shamnad Basheer argues that ñthe Indian Patent Of-

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countries had ratified the Convention. Article 8 of the CBD, titled ñIn-situ Conservation,ò provides:

> Each Contracting Party shall, as far as possible and as appropriate . . . [s]ubject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.

CBD, at art. 8(j). Article 10 of CBD, titled ñSustainable Use of Components of Biological Diversity,ò similarly stipulates, ñ[e]ach Contracting Party shall, as far as possible and as appropriate: . . . (c) Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements.ò *Id.* at art. 10(c).

84 Not all hold this view. Some are still adamant that the entire patent system needs to be altered to facilitate protection for traditional knowledge. In this regard, Gervais has observed that:

> [t]hese views about the intellectual property system have led certain academics to reject the current system in its entirety. They argue that the protection of traditional knowledge requires the establishment of an entirely new system. Intellectual property rights provide indigenous peoples with few legal courses of action to assert ownership of knowledge because the law simply cannot accommodate complex non-Western systems of ownership, tenure and access.

Gervais, *supra* note 74, at 960 (footnotes and internal quotation marks omitted).

fice has had an interesting history of taking itself to be a policy guardian of sorts and demonstrating a rather conservative approach to the issue of patentability.ò[85] Basheer concludes that this policy ñstressed the virtues of a weak patent system.ò[86] In Basheerôs view, fewer patents will result ñin a stronger indigenous industry, particularly in the area of pharmaceuticals and chemicals.ò[87] Basheer also thinks that it is likely that the Indian Patent Office will ñcontinue with a conservative approach to the issue of patentability, even with regard to pharmaceutical inventions that are patentable under the Patents Amendment Act of 2005.ò[88] Basheer suggests that NPOs have the tools that to protect national access to technology. He contends that the flexibility inherent in the conduct of the patent office allows it to tailor patent protection to suit policy needs.

It follows from the counterarguments articulated above that eradicating NPOs, especially in developing countries, would disenfranchise local talent and national interests. If this contention holds, then my proposed model is likely to be highly unpopular in developing countries and with WTO-TRIPS skeptics. However, there is a way to defuse this issue without undermining the valid concerns of its advocates. I have previously shown this to be true with respect to the challenging issue of access to patented medicines.[89] I have shown that much-needed access to medicines can be achieved through international institutions rather than national ones.[90] In my view, the patent system should be more attuned to the needs of the masses in developing countries and elsewhere for life-saving medications at affordable prices while not completely undermining

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85 Shamnad Basheer, *"Policy Style" Reasoning at the Indian Patent Office*, 3 INTELL. PROP. Q. 309, 310. According to Basheer, ñthis ópolicy-style reasoningô can be traced back to the Ayyangar Committee report, a document that formed the very basis for the current Indian patent regime.ò *Id.* (footnote omitted).

86 *Id.*

87 *Id.*

88 *Id.*

89 *See generally* Amir H. Khoury, *The "Public Health" of the Conventional International Patent Regime & the Ethics of "Ethicals"*, 26 Cardozo Arts & Entert. L.J. 25, 25 (2008). That Article argues that property rights in pharmaceutical patents needs to be balanced with other social interests, namely alleviating pain and suffering. The Article further argues for establishment of a distinct method for allowing access to medicines, especially where National Medical Emergency is involved. Such a state of affairs needs to be determined by entities are external to the conflict (namely ethical companies and the country involved) and the Article suggests reverting to joint findings by the World Health Organization, the World Trade Organization and WIPO.

90 *Id.* at 64ï65.

the patent rights of the owners of ethical patents.[91] My proposal hinges on the collaboration of the World Health Organization (ñWHOò) with the WTO.[92] Such collaboration aims to determine the existence of territorially limited, time-limited incidents that qualify as National Medical Emergencies (ñNMEò).[93] Under my proposal, when such an incident is determined, the patent system would authorize the stricken state to benefit from a mechanism in which the use, production, and importation of generic medicine are tolerated, subject to the payment of specific remuneration.[94] My research and others like it show that the burden of protecting access to patents and technology can be efficiently achieved on the international rather than the national level. In fact, a system that functions in this way is less likely to generate antagonism among the industries of developed countries, simply because it is a system that applies to all and is much more transparent.[95] Leaving the issue to NPOs or other national admin-

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91 *Id.*; *see* Rochelle Dreyfuss, *Patents and Human Rights: Where is the Paradox?, in* INTELLECTUAL PROPERTY AND HUMAN RIGHTS: A PARADOX 89ï 90 (Willem Grosheide ed., 2010).

92 Khoury, *supra* note 89, at 60ï 62.

93 *Id.* at 61.

94 *Id.* at 59ï 61; *see also* Patricia M. Danzon & Adrian Towse, *Theory and Implementation of Differential Pricing for Pharmaceuticals, in* INTERNATIONAL PUBLIC GOODS AND TRANSFER OF TECHNOLOGY UNDER A GLOBALIZED INTELLECTUAL PROPERTY RÉGIME 425, 445ï 47 (Keith E. Maskus & Jerome H. Reichman eds., 2005) (reviewing the economic case for patents and the potential for differential pricing to increase affordability of on-patent drugs in developing countries while preserving incentives for innovation).

95 DANIEL DREZNER, ALL POLITICS IS GLOBAL: EXPLAINING INTERNATIONAL REGULATORY REGIMES (2007). Drezner argues that globalization has not diluted the power of national governments to regulate their own economies, especially where great powers are involved. In his view, despite globalization, statesð especially the great powersð still dominate international regulatory regimes, and the regulatory goals of states are driven by their domestic interests. *See generally* Susan K. Sell, *Cat and Mouse: Industries', States' and NGOs' Forum—Shifting in the Battle over Intellectual Property Enforcement*, (September 1, 2009) (unpublished manuscript), *available at* http://ssrn.com/abstract=1466156. According to Sell, the IP enforcement agenda is just the latest in a series of strategic forum shifts. Yet, ñweakerò parties, such as developing countries and public advocacy NGOs, also deploy forum-shifting strategies in their efforts to reshape the rules. Laurence Helfer, *Regime Shifting in the International Intellectual Property System*, 7 PERSP. ON POLITICS 39 (2009) [hereinafter Helfer I]; Laurence Helfer, *Regime Shifting: The TRIPS Agreement and the New Dynamics of Intellectual Property Making*, 29 YALE J. INTôL L. 29, (2004) [hereinafter Helfer II]. Helfer contends that the access-to-medicines campaignôs amendments to TRIPS was a victory for the ñweakò. Indeed, there is no clear proof that the access-to-medicines debate has produced a clear winner. Sell, at 8. In fact, there are two accounts as to the outcome of this debate. *Id.* Sell identifies two approaches in research regarding the access-to-medicines debate and how the debate has played out. While Helfer contends that the access-to-medicines campaignôs amendments to TRIPS was a victory for the ñweak,ò Drezner, asserts that the amendments to

istrative entities would exacerbate the risk of a bias, which would ultimately raise the tensions among stakeholders.

Additionally, the position that NPOs are guardians of national access to technology can be rebutted by changing attitudes toward innovation and patent term. In previous research, I have shown that it may be possible to make patented technology more accessible by decreasing the patent term. This research identified the ñcommercial capacityò element of innovation.[96] Indeed, during the past four decades much has been written, both in legal and economic literature, about the elements that should determine the scope of patent protection. While one segment of that research advances the view that patent rights in and of themselves are sufficient for attaining the optimal degree of socially-desirable patent protection, the other segment contends that the patent term needs to be considered.[97] ñMy research taps into this debate and emphasizes the need to discontinue the use of a single patent term for all types of patents.ò[98] I have previously demonstrated that to optimize patent protection, there must be synergy between the length and breadth elements.[99] ñIn this regard, I have proposed basing a differential patent term on predetermined mechanisms of classification.ò[100] This, in my view, would better achieve a balance among competing interests.[101] Indeed, the issue here goes to the core of patents as a type of social contract. While on their face such patent rights are viewed as a deliberate attempt to create a monopoly to incentivize the innovator, there are those who question the merits of this type of ñexclusionaryò property. Clearly, this argument and its realization are not contingent upon any action undertaken by the

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TRIPS that preceded the Doha Declaration is characteristic of how influential states ultimately prevail.

96 Amir H. Khoury, *Differential Patent Terms and the Commercial Capacity of Innovation*, 18 TEX. INTELL. PROP. L.J. 373, 406 (2010).

97 *Id.* at 374.

98 *Id.*

99 *Id.* at 408.

100 *Id.* at 416. Specifically, that Article proposes using a differential patent term, in which duration is contingent upon the type of innovation and the underlying technology. The Article examines, among other things, the Strasbourg Agreement Concerning the International Patent Classification, which is a system of classification that can contribute to applying the patent length factor in an efficient and relatively cheap manner. *Id.* at 374.

101 *Id.* at 385ï 86. *See also* Danzon & Towse, *supra* note 94, at 426ï 27 (arguing that differential pricing can reconcile patentsð essential incentives for innovationð with the affordability of patented drugs in developing countries); Bryan Christopher Mercurio, *TRIPS, Patents, and Access to Life-Saving Drugs in the Developing World*, 8 MARQ. INTELL. PROP. L. REV. 211, 225ï 26, 253 (2004); Andrew Beckerman-Rodau, *Patent Law: Balancing Profit Maximization and Public Access to Technology,* 4 COLUM. SCI. & TECH. L. REV. 1, at *2, *50 (2002).

NPO in a given jurisdiction. It is a matter for international regulation and for local legislators to adopt. As such, as in other delicate issues pertaining to macrolevel patent policy and issues related to distributive justice-type issues, the role of the NPO is left marginal at best. In sum, it is possible to advance the interests of developing countries without NPOs.

D. Is it Time for an International Patent System?

Current trends suggest that it is time to start the transition from NPOs to an IPS. The foundations for such a transition are already in place. Indeed, WIPO statistics show that countries are inclined to join the PCT agreementð the agreement that would form the backbone of an IPS. Indeed, while there were only twenty member states to the PCT in 1978, that number has risen more than sevenfold over the past thirty-two years.[102]

Notably, all of the major economies that are world leaders of innovation are member to the PCT. For example, the PCT membership list includes Australia, Finland, France, Germany, Israel, Italy, Japan, Netherlands, New Zealand, Norway, South Korea, Russian Federation, Spain; Switzerland, Sweden, United Kingdom and, last but certainly not least, the United States.[103] The strength of the PCT also is clearly manifested in the expansive and growing use of the PCT as a tool for patenting. It is sufficient to note that in 2008 over 163,000 PCT applications were filed.[104] What is more, ñsince 1978, the number of PCT applications filed is 1,649,698,ò a staggering number by any standard.[105] Furthermore, the PCT system is an efficient one. Applications do not expire at the international phase but tend to move in exceedingly large numbers to the national phase. In fact in 2007, approximately 430,000 PCT national phase entries were filed worldwide.[106] Indeed, the PCT, with an annual growth rate of over 2.3 percent, could become the leading playing field for cross-border patent registration.[107] Finally, not only has the PCT become a central arena for patent-

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[102] According to data presented by WIPO, over the past 32 years the membership of PCT has risen steadily: 20 (in 1978); 30 (in 1980); 45 (1990); 108 (2000); and 142 (2010).

[103] WIPO, PCT: THE INTERNATIONAL PATENT SYSTEM YEARLY REVIEW 8 (2008), http://www.wipo.int/export/sites/www/pct/en/activity/pct_2008.pdf.

[104] *Id.* at 8.

[105] *Id.*

[106] *Id*. at 9. This number of national phase applications in 2007 constitutes a 5.1 percent increase when compared with the previous year (2006). *Id.*

[107] According to WIPO, in 2008 the growth rate over the previous yearôs level was 2.3 percent. *Id.* at 7.

ing, but it has also become the central hub through which the bulk of high-end innovation moves.[108]

The impetus for the IPS I propose rests on the broad-based harmonization trends that have been highlighted here. It is time to introduce and implement such a model for another important reasonð to maintain the balance between competing interests of states in the patents context. Indeed, without an IPS, countries will likely opt for a more individualized approach to patent protection, and by doing so, will contribute to the current backlash in the patent protection and harmonization context.

As my earlier research suggests, where there is a system that does not provide for equal footing in the marketplace or technology, the chances for a return to the bilateral track of intellectual property protection with unilateral sanctions imposed by states will increase.[109] Indeed, the way we protect innovations internationally has a direct and far-reaching effect on many issues including competition, access to technology, access to medicines, and term of protection.[110] Peter Yu has identified various disharmonizing steps undertaken by states to ñprotect themselves and to reclaim autonomy over their intellectual property policies.ò[111] In this regard, he refers to two opposing forces at work.[112] On one hand, it is evident that, according to Peter Yu, the fact that developed

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[108] VIVEK WADHWA ET AL., U.S.-BASED GLOBAL INTELLECTUAL PROPERTY CREATION: AN ANALYSIS 2 (October 2007) (unpublished manuscript), *available at* http://ssrn.com/abstract=1026448. In this regard, the authors show that:

> The PCT patent applications filed in the United States arguably represent some of the most sophisticated inventions developed in this country. Not only does the perceived need for international intellectual property protection indicate that the inventions are characterized by a higher level of sophistication than those submitted only to the United States Patent and Trademark Office (USPTO), but also the costly and time-intensive application process for PCT patents suggests that inventions described in these applications largely have market potential in multiple countries, global visibility, or diverse applications.

Id.

[109] *See* Khoury, *supra* note **Error! Bookmark not defined.**, at 386ï 88.

[110] *See* Amir H. Khoury, *A Neoconventional Trademark Regime for "Newcomer" States*, 12 U. PA. J. BUS. L. 351, 397 (2010); Khoury, *supra* note **Error! Bookmark not defined.** at 385; Amir H. Khoury, *The "Public Health" of the Conventional International Patent Regime & the Ethics of "Ethicals:"* Access to Patented Medicines, 26 CARDOZO ARTS & ENT. L.J. 25, 42 (2008); Amir H. Khoury, ñ*Measuring the Immeasurable"—The Effects of Trademark Regimes: A Case Study of Arab Countries*, 26 J.L. & COM. 11 (2006).

[111] Peter K. Yu, *Five Disharmonizing Trends in the International Intellectual Property Regime*, *in* 4 INTELL. PROP. & INFO. WEALTH 73, 73ï 74 (Peter K. Yu ed., 2007).

[112] Khoury, *Measuring the Immeasurable*, *supra* note 110, at 51.

countries now place greater emphasis on the WIPO Development Agenda is ñin the hope of rolling back some of the protection required by the TRIPs Agreement and other international treaties.ò[113] On the other hand, it is clear from the vibrant implementation of free trade agreements that developed countries are exerting much more effort on bilateral and multilateral tracks to boost IP protection and enforcement in developing countries.[114] Absent a cheaper and more unified patent system, the increasing dissatisfaction with the conventional patent régime is likely to increase the rift between North and South. Thus, the time to act is now.

E. IPS and the Forum Shift Argument

Another counterargument to eliminating national patent offices and using an international patent system is that an international patent system would merely distract from the problems with the current patent regime, rather than solve the problem. Skeptics might describe this as a forum shift mechanism. As the discussion below shows, this counterargument is meritless.

The forum shift mechanism is not new to intellectual property. Sell shows that since the early 1980s ñadvocates seeking to ratchet up levels of intellectual property (IP) protection have shifted forums both vertically and horizontally in order to achieve their goals.ò[115] As Sell explains, vertical forum shifts are ñfrom multilateral to regional to bilateral levels.ò[116] Further, Sell shows that horizontal forum shifts take place ñacross diverse international organizations.ò[117] In Sellôs view, these forum shifts amount to an ñelaborate cat and mouse gameò where once a given venue ñbecomes less responsive to a high protectionist agenda, IP protectionists shift to another in search of a more hospitable venue.ò[118] The underlying theme in these forum shifts relates to the ongoing debate

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113 Yu, *supra* note 111, at 74. *See generally* Neil W. Netanel, *Introduction: The WIPO Development Agenda and Its Development Policy Context*, *in* THE DEVELOPMENT AGENDA GLOBAL INTELLECTUAL PROPERTY AND DEVELOPING COUNTRIES 1 (Neil W. Netanel ed., 2009), *available at* http://ssrn.com/abstract=1310388 (reporting an expansive study of the Development Agenda).

114 Yu, *supra* note 111, at 74. Yu also refers to other measures that are unilateral in nature, including those undertaken by exporting industries in developed countries like the introduction of ñmass-market contracts and technological self-help measures to protect themselves against large-scale piracy and counterfeiting in the digital environment.ò *Id.* at 74.

115 Sell, *supra* note 95, at 2.

116 *Id.*

117 *Id.*

118 *Id.*

between IP holders and IP users as to how to distribute innovation or public goods (as in the case of access to patented medicines). It is not surprising that many have been critical of these self-motivated forum shifts in which parties aim to ñoptimize their power and advantages and minimize opposition.ò[119] It is worth noting that this tactic has been employed by all parties to the IP debate, notwithstanding their political or economic stature, including the U.S., developing countries, and public advocacy non-governmental organizations (ñNGOsò).[120] Sell is rather critical of this tactic because it amounts to a constant changing of the game, or rather its venue, so much so that Drahos contends that due to forum shifting ñsome negotiations are never really over.ò[121]

Notwithstanding the criticism of forum-shifting as a tactical tool, my proposed shift emerges unscathed. While my proposal assumes the formal form of a forum shift, it is much easier to accept because its aim is not to serve self-motivated ends of one party, but rather to acknowledge the dominance of the ñglobalò rather than ñlocalò when it comes to patent protection. Thus, my proposed forum shift stems from the view that just as innovation is borderless, so too must be its registration.

F. Inapplicability of the Trademark Argument to Patents

Another challenge to my proposal reflects on the applicability of this proposal to other IP subject matter, namely trademarks. Here the contention could be that just as it is not feasible to create an international trademark office, so too, it is not feasible to shift to an IPS.

The argument for preserving the territorial system of trademark protection is meritorious. In the trademark field, it would be a much more questionable undertaking to create an international system for ñinternational marksò because only the national trademark office has the ability to determine if a mark is suitable in its jurisdictionôs given language, as well as in light of social differences. Here, any attempt to shift the system from a national to international level would be an expensive and massive undertaking involving a review of each mark by social as well as linguistic experts from all designated countries.

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119 *Id.* Research has dealt with the question of forum shifting in the IP context. *See, e.g.*, Helfer, *supra* note 95, at 14. *See also* Margaret Chon, *Intellectual Property and the Development Divide*, 27 CARDOZO L. REV. 2821, 2853 (2006); Graeme B. Dinwoodie & Rochelle C. Dreyfuss, *TRIPS and the Dynamics of Intellectual Property Lawmaking*, 36 CASE W. RES. J. INTôL L. 95, 120ï21 (2004).

120 For an example, consider the US exiting UNESCO in the 1980s.

121 Peter Drahos, *Four Lessons for Developing Countries from the Trade Negotiations Over Access to Medicines*, 28 LIVERPOOL L. REV. 11, 22 (2007).

Thus, it appears that both the international and national systems complement each other and that the current Madrid system strikes the best balance between the international and the national in the trademark context.

However, the situation with respect to trademarks does not lead to the conclusion that my proposed model should be shelved. There are no parallels between trademarks and patents when it comes to the issue of international registration. Where trademarks are simply commercial tools that have linguistic and social connotations, and as such are by definition bound by social constraints, patents are tools for protecting scientific discovery and innovation that is universal.

But without derogating from the above, it is worth noting that the trademark argument of territoriality has not been viewed as a constant by all. Dinwoodie has challenged the ñaxiomatic principle of domestic and international trademark law that trademarks and trademark law are territorial.ò[122] Dinwoodie argues that although the principle of trademark territoriality has ñnominally remained constant . . . since the conclusion of the Paris Convention . . . recent developments at both the national and international level suggest that the principle may have a different intensity today.ò[123] Dinwoodie also revisits the ñprinciple of territorialityò against the backdrop of ñthe globalization of markets and concomitant changes in modern marketing practices.ò[124] Dinwoodie contends that there is a need to separate nationality and territoriality because each element is propelled by different considerations.[125]

G. Preserving Secret Patents

Another possible hurdle to eliminating NPOs is military-related innovation, or more broadly speaking, secret patents. Here, the claim might be that in any patent system other than a nationally secured system, it would be virtually impossible to provide protection for secret patents because entities that are entrusted with such innovations would be very reluctant to expose them beyond their national patent office.

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122 Graeme B. Dinwoodie, *Trademarks and Territory: Detaching Trademark Law from the Nation-State*, 41 HOUS. L. REV. 885, 887ï 88 (2004) (linking recognition of the territoriality of goodwill to the basic purposes of trademark law, while finding that nationality-grounded doctrines are more likely driven by economic policy and by institutional issues such as the practical demands of current political structures).

123 *Id.* at 888.

124 *Id.* at 889.

125 *Id.* at 890ï 91.

However, it is important to realize that these innovations do and will continue to receive preferential treatment in their respective states. In fact, even today, such innovations are privileged in a manner that allows for superseding regular patent laws.[126] Specifically, in U.S. law, it is possible to refer to the privilege that emanates from common law, and which gives special consideration to public interest and state secrets.[127] Here, the disclosure of information, generally a crucial component of a patent, has in some cases been deemed contrary to national security and the inherent right of governmental self-preservation.[128] So in essence, even in the conventional NPO, such innovations are not registered or treated on equal footing with other innovations (a practice that has received scrutiny).[129] But even more so, it is important to emphasize that the proposed IPS can, and should, accommodate the continued existence of additional national entities that are entrusted with the registration of classified innovations. Specifically, one can envision classified departments (which might already exist) that are entrusted with the delicate task of managing classified innovation that directly impacts national security. As such, the proposed system cannot be blocked simply because of the importance of this distinct field of innovation.

H. Consistency of Patent Examination

There remains an additional element that should not be overlooked, but requires a little imagination to be considered. Consider, if you will, a single harmonious international patent systemð a system that examines and accepts certain innovation as eligible for worldwide patent protection.[130]

Now consider how the patent system functions today. Not only are national patent laws different, and the interests that underlie them oftentimes irreconcilable, but when adding a pinch of interpretation and the human element,

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126 Davida H. Isaacs & Robert Michael Farley, *Privilege-Wise and Patent (and Trade Secret) Foolish?: How the Courts' Misapplication of the Military and State Secrets Privilege Violates the Constitution and Endangers National Security*, 24 BERKELEY TECH. L.J. 785, 791 (2009).

127 28 U.S.C. § 1498(a) (2006) (ñWhenever an invention described in and covered by a patent of the United States is used or manufactured by or for the United States without license of the owner thereof or lawful right to use or manufacture the same, the ownerôs remedy shall be by action against the United States in the United States Court of Federal Claims for the recovery of his reasonable and entire compensation for such use and manufactureò).

128 Crater Corp. v. Lucent Techs., Inc., 255 F.3d 1361, 1370 (C.A.F.C. 2001). It is worth noting that this case has recently been overruled. However, the view or trend voiced therein still stands.

129 Isaacs, *supra* note 126, at 800.

130 This will be described in depth in the next Part.

the system that currently exists deals with one subject matter, innovation, but produces inconsistent outcomes. The skeptics to this argument might contend that it is merely speculative, due to the lack of a clear empirically-based study pertaining to the perceived differences among patent offices. But this is not so. In fact, suffice it to mention two extensive research projects that have highlighted differences among NPOs. Lerner has ñexamine[d] the administrative practices of patent offices in sixty countries over a 150-year period.ò[131] He concludes that in nations with more complex economies, where information asymmetries between patent office officials and applicants and between policymakers and the patent office were likely to be the most problematic, the workings of the patent systems differed substantially from one another.[132] Furthermore, Cockburn, Kortum, and Scott have concluded that even within the USPTO there are clear differences among examiners. In that research, Cockburn et al. have analyzed the relationship between patent examiners and patent outcomes. Based on that empirical study, they have concluded that patent examiners and the patent examination process are not homogeneousð there is substantial variation in observable characteristics of patent examiners, such as their tenure at the USPTO, the number of patents they have examined, and the degree to which the patents that they examine are later cited by other patents. They have also asserted that there is no evidence that examiner experience or workload at the time a patent is issued affects the probability that the Court of Appeals for the Federal Circuit (ñCAFCò) finds a patent invalid. Finally, they have observed that examiners whose patents tend to be more frequently cited tend to have a higher probability of a CAFC invalidity ruling. This dire situation wherein patent examiners are not equivalent as to examination consistency is exacerbated when examiners from different NPOs are compared. Palangkaraya et al. have affirmed the existence of differences in patent examination outcomes in different national patent

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131 Josh Lerner, 150 Years of Patent Office Practice i (Nov. 1999) (unpublished manuscript), *available at* http://ssrn.com/abstract=196648.

132 *Id.* According to Lerner,

> Patentees were more likely to face steeply sloped renewal fee schedules and to pay multiple renewal fees. They were also more often granted the flexibility to delay the examination of patent applications. Meanwhile, patent officials were less likely to be granted discretion to extend and otherwise modify awards in these settings. Responsibility for determining patent validity was increasingly divided between the patent office and the judicial system.

Id. at 20ï21.

offices.[133] ñUsing a dataset of more than 70,000 non-PCT patent applications filed at the European and Japanese Patent Offices conditional upon them being granted by the [USPTO],ò they have concluded that the main factors that contribute to the differences are ñthe quality of the invention,ò the quality of the applicant, and ñwhether the inventor was a local resident.ò[134] They further alerted us to the (dire, but intuitively rational) possibility that some ñexamination decisions are made in the interests of [a countryôs] national trade.ò[135]

Considering all of this, adopting my proposed IPS model is likely to harmonize the examination of patents and the way in which innovation is being judged and examined. Further, the IPS model would contribute greatly toward rendering the entire patent system more efficient, more transparent, and less costly.[136] The importance of a single patent grant that is international in scope can also be deduced from the complexity of defining patent claims and understanding their meaning and the subjective nature of patent examination. In this regard, Lemley points out that there is no single method for interpreting the meaning of patent claims.[137] Specifically, Lemley observes the existence of various methods for interpreting patent claims in cases involving infringement as well as with respect to post-registration technology.[138] Following this, he argues that patent terminology, especially in the patent claim, ñshould have a fixed meaning throughout time and that this meaning should be fixed at the time the patent application is first filed.[139] This challenge is further exacerbated by the multiplicity of national patent offices.

I. Transition Costs

Even if all of the above holds, both on the descriptive and normative levels, an additional issue existsð transition costs from the existing NPO system to my proposed IPS model. There is no denying that my proposed shift from the NPO system to an IPS will entail substantial costs, but these costs cannot justify

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133 Alfons Palangkaraya et al., *Determinants of International Patent Examination Outcomes* 2 (Melbourne Inst., Working Paper No. 6/05, 2005) *available at* http://ssrn.com/abstract=730304.

134 *Id.*

135 *Id.*

136 John H. Barton, *Issues Posed By A World Patent System*, 7 J. INTôL. ECON. L. 341, 341 (2004).

137 Mark A. Lemley, *The Changing Meaning of Patent Claim Terms*, 104 MICH. L. REV. 101, 102ï03 (2005).

138 *Id.* at 103.

139 *Id.* at 104.

stagnation under the current NPO system. Indeed, the response to the transition costs argument considers both institutional and normative contexts. On the normative side, it could simply be argued that all things that are important to society cost money. If my proposal has merit, then the cost issue cannot, in and of itself, justify the status quo. The simple albeit bold contention that human rights cost money can also be applied to this type of debate.[140] However, it is not necessary to pit the cost issue against the entire project. Transition costs should not be too great given the PCT agreement and the entire international patent regulative system as it currently exists. Consequently, member states can still contribute to search and examination, but their conclusions would ultimately be settled by WIPO-PCT rather than by NPOs, like in the existing national system.

Furthermore, the transition costs are not insurmountable. Thoma et al. have shed light on ñmethods for the harmonization and combination of large-scale patent and trademark datasets with each other and other sources of data.ò[141] They have shown that opting for either a ñdictionary or a rule-based approach[] to the consolidation of applicant names in patent data . . . [has] both benefits and drawbacks.ò[142] Thoma et al. have managed to ñcombine the two methods and develop a set of rules to consolidate European, Patent Cooperation Treaty (PCT), and US patent data with firm accounting data.ò[143] The resulting data encompass about 131,000 patent applicant names from forty-six countries, covering 58.8 percent of EPO applications and 50.6 percent of PCT applications by business organizations during the time period from 1979 to 2008.[144] ñFor US data, the resulting dataset includes around 54,000 assignee names and 51.3 percent of US granted patents during approximately the same time period.ò[145]

Thus, because there are already many tools and mechanisms to assist in the transition to an IPS, the transition costs should not be prohibitive. The pa-

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140 STEPHEN HOLMES & CASS R. SUNSTEIN, THE COST OF RIGHTS: WHY LIBERTY DEPENDS ON TAXES 15 (Alane S. Mason ed., 1999). Holmes and Sunstein contend, in chapter one of their book that, ñThe financing of basic rights through tax revenues helps us see clearly that rights are public goods.ò *Id.* at 48.

141 Grid Thoma et al., *Harmonizing and Combining Large Datasets—An Application to Firm-Level Patent and Accounting Data* 2 (Natôl Bureau of Econ. Res., Working Paper No. w15851, 2010), *available at* http://ssrn.com/abstract=1578688.

142 *Id.*

143 *Id.*

144 *See generally* DOMINIQUE GUELLEC & BRUNO VAN POTTELSBERGHE DE LA POTTERIE, THE ECONOMICS OF THE EUROPEAN PATENT SYSTEM IP POLICY FOR INNOVATION AND COMPETITION (2007) (detailing PCT filings and their scope in Europe and elsewhere).

145 Thoma, *supra* note 141, at 1.

tent system is not starting from scratch, so to speak. Much headway has been made on the sub-institutional level toward reaching a full-fledged international patent system that will be the place where all innovation comes together. Thus, the bulk of the transition costs will be geared toward fine-tuning the IPS, not creating the IPS.

J. PCT as an IPS

Another obstacle to my proposed shift to an IPS is the following question: if the PCT is indeed an effective tool and is open to all inventors from PCT member states, then why create a new method of protection in the form of an IPS? The logic behind this question seems to emanate from the following saying: ñIf it ainôt broke, donôt fix it.ò[146] However, on close examination, it is evident that this challenge an IPS is wrong and misleading.

Three reasons support the need for both the PCT and an IPS. First, while my proposed IPS model is based on the PCT concept as a starting pointð it calls for expanding the PCT and for effectively doing away with NPOs. Second, the PCT is not a satisfactory substitute for an IPS because the existing PCT model is merely formally open to all market actors in the field of innovation. However, in reality, the PCT is only accessible to states with sufficient means to access it or to file beyond their borders.[147] Thus, the current PCT system assures *de jure* equality but not *de facto* equality.

Indeed, Wadhwa et al. have shown that only sophisticated patents are filed through the PCT track. They blame this on the ñcostly and time-intensive application process for PCT patents.ò[148] In essence, the PCT as it stands today has become a hamlet for rich innovators and for applications that have ñmarket potential in multiple countries, global visibility, or diverse applications.ò[149] As such, the PCT fails to harness all knowledge and innovation and remains an exclusive club that is elusive to some innovators. Indeed, the PCT does not take responsibility for innovation because at the end of the day, patent registration remains territorial and it is the national offices that ultimately decide. As a result, the only way the patent system can capitalize on the PCTôs success while ensuring access to all and holding the PCT system accountable for the implica-

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146 THE FREE DICTIONARY, http://idioms.thefreedictionary.com/if+it +ain't+broke,+don't+fix+it (last visited Aug. 2, 2012).

147 This hurdle relating to expenses also applies to other systems of registration. Notably, a PCT application costs less than a European application to file.

148 *Id.*

149 *Id.*

tions of its decisions (research and examination), is to shift to a fully fledged IPS.

III. VISIONS OF A NEW PATENT OFFICE

Considering all of the above, it is possible to conclude that the benefits of the territoriality principle have been overrated and exaggerated. Indeed, it appears that as the globalization-technology axis has shifted away from the nation-state structure, so too has the need to alter this model become more acute. Dinwoodie observes that ñ[t]erritoriality is a principle that has always received excessive doctrinal purchase in intellectual property law.ò[150] He contends, as I have shown in my analysis of both the practical and normative issues, that the ñforce of the principle has declined as units of social and commercial organization have come to correspond less neatly with national borders, and as private ordering has weakened the capacity (and perhaps the claim) of the nation-state exclusively to determine the behavior of its citizenry.ò[151]

Indeed, the idea for a change in the patent system has been in the works for some time. Geller has called for the creation of open, global databases and for ñlinking . . . local patent databases into a globally distributed database to facilitate global searches.ò[152] Similarly, Noveck has argues that ñaccess to information is the crux of the patent quality problem. Patent examiners currently make decisions about the grant of a patent that will shape an industry for a twenty year period.ò She observes that the distrust of scientific experts ñproduces an information deficit that results in poor quality patents.ò[153] Noveck then advocates for an ñopen reviewò to combine the wisdom of expert scientific communities of practice with the legal determinations of a trained Patent Office staff.[154] In her research, Chon proposes a ñprinciple of global intellectual propertyð one that is responsive to development paradigms that have moved far beyond simple utilitarian measures of social welfare.ò[155]

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150 Dinwoodie, *supra* note 119, at 714.

151 *Id.* at 715.

152 Paul Edward Geller, *An International Patent Utopia?*, 25 EUR. INTELL. PROP. REV. 515, 516 (2003) (calling for the creation of open, global databases and the linking of local patent databases into a globally distributed database to facilitate global searching).

153 *Id.* at 125.

154 *Id.* at 129.

155 Chon, *supra* note 119, at 2823. Chon asserts that a ñnew principle of substantive equality is a necessary corollary to the formal equality principles of national treatment and minimum standards that are now imposed on virtually all countries regardless of their level of development.ò *Id.* ñIndeed this principle is arguably the very core of a human development-

But, despite there being ñoverly rigid territorial reasoning, in particular as regards jurisdiction concerning foreign IP rights,ò Peukert cautions that ñunilateral óextraterritorialismô deserves as much scrutiny as does an overly rigid óterritorialism.ôò[156] Consequently, there needs to be some shift to a new system that will also circumvent these innate tensions. Furthermore, such a proposed system would ensure a *de facto* national treatment of all applicants given the international nature of the registration. The system should be created with a view toward enhancing the creation and protection of knowledge for all mankind while saving costs and simplifying the process for patent holders in the process.

Operatively, my proposal is to merge the WIPO structure into a few of the central IP offices, namely the USPTO,[157] Japanese, and European Patent Offices. A clear example of this trend of consolidation is found in the Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure.[158] That treaty recognizes that pharmaceutical and biological patents often involve the use of microorganisms. Ordinarily, these microorganisms would need to be deposited with the patent office in each country where the inventor seeks registration. However, to simplify the filing process and save the patent applicant from having to file a separate sample of the microorganism in each country where he seeks to register his patent, not to mention the health risks that would be involved in such an endeavor, the treaty accepts a single deposit of those microorganisms.[159] In this regard, state mem-

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driven concept of ódevelopment.ôò *Id.* at 2835. This is a term that is highly indeterminate but lately used by many developing countries to express an equality concern within various global intellectual property regimes such as the WTO and WIPO.

156 Alexander Peukert, *Territoriality and Extraterritoriality in Intellectual Property Law*, *in* BEYOND TERRITORIALITY: TRANSNATIONAL LEGAL AUTHORITY IN AN AGE OF GLOBALIZATION 11, 38, 39 (Gunther Handl & Joachim Zekoll eds.) (forthcoming 2011), *available at* http://ssrn.com/abstract=1592263.

157 Congress established the United States Patent and Trademark Office (ñUSPTOò) to issue patents on behalf of the government. The USPTO as a distinct bureau dates from the year 1802, when a separate official in the Department of State who became known as ñSuperintendent of Patentsò was placed in charge of patents. The revision of the patent laws enacted in 1836 reorganized the USPTO and designated the head officer as the Commissioner of Patents. The USPTO remained part of the Department of State until 1849, when it was transferred to the Department of Interior. In 1925, it was transferred to the Department of Commerce, where it is today. In 1975, the name of the Patent Office was changed to the United States Patent and Trademark Office. Jason O. Watson, *A History of the United States Patent Office*, http://www.historical-markers.org/usptohistory.cgi (last visited Aug. 2, 2012).

158 Budapest Treaty on the International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure, Apr. 28, 1977, 32 U.S.T. 1241.

159 *Id.* at art. 3.

bers to this treaty agree to recognize the deposit of microorganisms with any ñInternational Depository Authorityò anywhere in the world.[160] The Budapest model, which is pragmatic, efficient, and in-tune with reality, should be applied in the wider context of patent registration, thus terminating the traditional centralized system of NPOs. Clearly the proposed model cannot function without the continued support and cooperation of national talents. All knowledge, including human talent, in the examination process should be utilized fully with the proposed IPS. Such a fusion of knowledge, talent, and experience would reduce any argument of illegitimacy within the separate states and would allow all innovators from around the world to benefit from the proposed system. In this regard, Helfer and Dinwoodie have stated in another related context that:

> [W]e support the inclusion of national structures in the design or refurbishing of non-national lawmaking and dispute settlement systems on both pragmatic grounds and as a matter of principle. Pragmatically, facilitating input by the primary beneficiaries of the intellectual property system, namely the public, cannot be achieved without the input of national political structures.[161]

Finally, it is worth noting that my research is not a lonely voice in the academic wilderness. Others have already proposed ways of changing the structure of the patent office or of expanding protection to specific types of patents.[162] One such call to reform is offered by Singleton, who calls for making the USPTO more independent of the U.S. government.[163] In this regard, he cites similar reforms in Switzerland and other countries.[164] But still, my proposed model is a much more ambitious one, in that the patent system is completely severed from national control or territorial oversight. It would become an independent system in its own right, whose legitimacy is not granted by the people residing in one territory or country but by all people of all states working to-

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160 *Id.*

161 Laurence R. Helfer & Graeme B. Dinwoodie, *Designing Non-national Systems: The Case of the Uniform Domain Name Dispute Resolution Policy*, 43 WM. & MARY L. REV. 141, 254 (2001).

162 Anne E. Crocker, *Will Plants Finally Grow into Full Patent Protection on an International Level—A Look at the History of U.S. and International Patent Law Regarding Patent Protection for Plants and the Likely Changes after the U.S. Supreme Court's Decision in* J.E.M. Ag Supply v. Pioneer Hi-Bred, 8 DRAKE J. AGRIC. L. 251, 293 (2003); *see also* Faryan A. Afifi, *Unifying International Patent Protection: The World Intellectual Property Organization Must Coordinate Regional Patent Systems*, 15 LOY. L.A. INTôL & COMP. L. REV. 453, 482 (1993).

163 Solveig Singleton, Should the Patent Office Be an Independent Corporation? Pros and Cons, PROGRESS ON POINT 1 (Dec. 1, 2005) (unpublished manuscript), *available at* http://ssrn.com/abstract=1600264.

164 *Id.* at 2.

gether to make a new patent system for the peopleð all of the people, everywhere.

IV. CONCLUSION

This work proclaims the end of the national patent office (ñNPOò) in its conventional form. Here, my assertion is that the ñtraditionalò or conventional mode of operation of the NPO is no longer compatible with the way that innovations are being patented, applied, protected, and enforced around the world. This is a direct byproduct of the cross-border nature of innovation, the threshold of patent registration (*i.e.*, the international novelty requirement), and the international structure of patent protection in a truly globalized world. Indeed, given the current nature of patents and the decentralized international patent system that is already in place, the role of the NPO has become redundant. NPOs are now a mere relic of a predominantly outdated territorially oriented framework. Both administrative realities and normative reasoning lead to the conclusion that the institution of a formal, full-fledged international patent system (ñIPSò) with an international patent office (ñIPOò) is only a matter of time.

In this Article, I have shown that all of the roles originally played by NPOs, namely examination and registration, have shifted to other players in effect, namely WIPOôs International Bureau, among others. Understandably, the shift to such an international system does not come without cost. However, both the costs of transition and the substantive loss of local input are dwarfed by the attainment of the ultimate goalð the creation of a much more vibrant environment of human innovation. In a nutshell: *Innovation is borderless; it ought to be so! And mechanisms should be put in place to facilitate that.*