

University of Alberta

From the Selected Works of Moin A Yahya

September, 2007

Infringement & the International Reach of U.S. Patent Law

Moin A Yahya, *University of Alberta*

Cameron Hutchison, *University of Alberta*



SELECTEDWORKS™

Available at: http://works.bepress.com/moin_yahya/8/

Infringement & the International Reach of U.S. Patent Law

Cameron Hutchison & Moin A. Yahya*
chutchison@law.ualberta.ca & myahya@ualberta.ca

Abstract

American Patent Law, through both judicial and legislative efforts, has evolved from a strict territorial based set of laws asserting jurisdiction only over those infringements taking place on American soil to a more expansive set of rules asserting jurisdiction over any event that may harm patent holders in the United States regardless of where the infringement is taking place. This, we argue, is contrary to the original purpose of Patent Law and inconsistent with American obligations under the International *Agreement on Trade-Related Aspects of Intellectual Property* (TRIPS). We argue for a return to territorial based rules of jurisdiction. Such a territorial based rule will generate stable and predictable rules of jurisdiction and will create certainty in an increasingly global world of patent applications, such as Telecommunications and the Internet. Additionally, this rule will allow the reading of American patent law in harmony with International obligations, and will also allow for American firms to take advantage of variations in international legal regimes.

Introduction

This paper addresses some of the conflicting jurisprudence that has emerged from U.S. case law concerning the territorial scope of patent law. We suggest that the traditional notion that patents are protected in the geographic situs where the patent was granted should be adhered to. This, we argue, is good policy under the existing case-law and under international agreements such as the *Agreement on Trade-Related Aspects of Intellectual Property* (TRIPS).

States typically prescribe patent laws that are notionally territorial in scope. This means that liability for patent infringement, under the laws of a state, will only arise if the offending act occurs within the territory of that state. The globalization of both

* Assistant Professors at the Faculty of Law, University of Alberta, Edmonton, AB, Canada T6G 2H5. We are grateful to the Institute for U.S. Policy Studies at the University of Alberta for generous financial support. We would like to thank Remus Valsan and Wassila Semaine for their excellent research assistance. We would also like to thank participants at conferences sponsored by the Michigan State University Faculty of Law (the 4th Annual Intellectual Property Law Scholars Roundtable) McGeorge School of Law (ICANN Symposium) University of Alberta Department of Economics, and the University of Alberta Institute for United States Policy Studies for their helpful comments on earlier versions of this work. All errors are ours.

technology systems and inter-state trade pose enormous challenges to the territoriality concept underlying patent law's jurisdictional reach. Transnational telecommunications patents, like the internet or wireless networks, can involve components located in multiple jurisdictions that operate simultaneously in connection with an infringing act. Or, component parts –themselves unpatented – may be exported abroad for assembly of products –which *are* patented in the place of export- under an increasingly open regime of global trade. U.S. patent law has not responded well to these challenges in two respects. First, courts have unsatisfactorily interpreted §271(a) of the Patent Act¹ in connection with transnational telecommunications patents. The “control and beneficial use” test adopted by the United States Court of Appeal for the Federal Circuit (CAFC) in *NTP v. RIM*² was the latest in a string of cases which failed to articulate a justifying rationale upon which to establish a coherent framework for understanding the territorial ambit of §271(a). Second, §271(f) of the Patent Act,³ which identifies the exportation of unpatented components for patented assembly abroad as a ground of infringement, runs contrary to the purposes of TRIPS. The CAFC's ruling in *AT&T v. Microsoft*⁴ would have expanded the scope of §271(f) considerably; fortunately, the United States Supreme Court reversed the CAFC and restored a degree of harmony between U.S. patent law and TRIPS.⁵

In this paper, we diagnose the jurisdictional uncertainty and overreaching that has arisen under U.S. patent law. Jurisdictional uncertainty hinders both patent holders and technology users who are unclear about the extent of patent rights in a given jurisdiction. Both a justifying rationale, and an objective basis, are needed for determining the appropriate scope of prescriptive jurisdiction in the U.S. and elsewhere. For this, we turn to the TRIPS Agreement. We argue that a principle of territorial market rights is contemplated under that treaty and should guide courts in determining whether or not to apply their patent law. This approach directs that the relevant question is *where* have the territorial market rights in a patent been exploited? At a specific level, we look at how

¹ 35 U.S.C. §271(a).

² *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1282-1326 (Fed. Cir. 2005).

³ 35 U.S.C. §271(f).

⁴ *AT&T Corp. v. Microsoft Corp.*, 414 F.3d 1366 (Fed. Cir. 2005) *rev'd*, 127 S. Ct. 1746 (2007).

⁵ *Microsoft Corp. v. AT&T Corp.*, 127 S. Ct. 1746 (2007).

this principle would apply to the separate grounds of infringement under §271(a), i.e. making, using, selling, offering to sell, and importing. We also suggest that §271(g) of the Patent Act,⁶ which protects the market rights of products made from patented processes abroad, accords with the territorial market rights principle at least insofar as it has been interpreted by U.S. courts to this point. We use the TRIPS Agreement to argue a somewhat different point with respect to §271(f). Even though the Supreme Court reigned in the CAFC's expansive interpretation of §271(f) in *AT&T v. Microsoft*⁷, we argue for the repeal of this provision based on international trade law principles, or at the very least that U.S. courts read §271(f) in harmony with its international obligations under TRIPS.

There is another reason for seeking guidance from TRIPS in the context of U.S. patent law. The *AT&T* decision was issued without reference to international treaties (for good reason as both the parties were domestic); this means that how foreign firms will fare under U.S. patent law is still uncertain. As Judge (then professor) Moore found in a recent study, foreign firms fare poorly in American patent litigation.⁸ According Judge Moore's findings, the domestic party prevailed 64% of the time in cases when the other party was foreign and the trier of fact was a jury, while when a judge alone was the trier of fact, there was no statistically significant advantage for domestic firms.⁹ Moreover, despite foreigners acquiring 45% of patent rights annually, they only enforced their patents through litigation 13% of the time, suggesting an apprehension by foreigners of the U.S. litigation system.¹⁰ Judge Moore argued that this apprehension could be overcome by adherence to international agreements such as TRIPS.¹¹ This idea underlies our proposal for a territorial market rights approach to transnational patent infringement cases that is in harmony with the TRIPS Agreement.¹²

⁶ 35 U.S.C. §271(g).

⁷ *Microsoft*, 127 S. Ct.

⁸ Kimberly A. Moore, *Xenophobia in American Courts*, 97 NW. U. L. REV. 1497 (2003).

⁹ *Id.* at 1504.

¹⁰ *Id.*

¹¹ *Id.* at 1550.

¹² An example of this sentiment was recently exhibited when efforts to legislatively reform the U.S. Patent system hit a snag when the AFL-CIO convinced a group of Democratic Senators that the reforms would threaten American union jobs by exposing domestic patent holders to foreign competition. Greg Hitt ,

To engage in a discussion of patent infringement invites a host of considerations that we do not address in this paper. Liability rules (strict versus intentional, or direct versus contributory infringement) or claims construction, for example, are matters properly within the good faith discretion of state sovereignty once a ground of infringement has been triggered. Similarly, the issue of damages will not be discussed, though we emphasize that such calculations should similarly be done in good faith (and on a non-discriminatory basis) such that amounts awarded cross jurisdictionally approximate the actual loss suffered by a patentee on a global basis.

The discussion will proceed as follows. In Part A, we examine and critique U.S. case law in connection with transnational telecommunications patents, and trade in technologies. We conclude this section by arguing the need for states to achieve a low-level coordination of their laws on jurisdictional reach to ensure fairness and predictability for patent stakeholders. In Part B, we argue that the TRIPS Agreement is an objective standard of international law according to which such coordination could be based. We propose and develop the idea of territorial market rights in connection with the various grounds of infringement, and illustrate these points with concrete examples. We end the paper with a discussion of why §271(f) constitutes jurisdictional overreaching under the TRIPS Agreement, and we suggest how best to address this.

A. Territoriality & Transnational Patent Disputes

Patent law has been called the most territorial of the intellectual property subject areas, and this is no less the case for U.S. patent law.¹³ But as we will see in this section, the concept of territoriality may be problematic in connection with transnational telecommunications systems, as well as with the export and import of technologies. These areas will be analyzed in respect of case law that has arisen under §271 of the Patent Act.¹⁴ The failure of U.S. legislators and courts to articulate, or appreciate, a

Patent System's Revamp Hits Wall Globalization Fears Stall Momentum in Congress; AFL-CIO Sends a Letter, WALL. ST. J., August 27, 2007, at A3.

¹³ GRAEME B. DINWOODIE ET. AL., INTERNATIONAL AND COMPARATIVE PATENT LAW 30 (2002).

¹⁴ 35 U.S.C. §271.

rationale underlying patent rights embodied under these subsections has led to an incoherent set of rules, and has unduly expanded the scope of U.S. patent rights. Part A ends with a discussion of the need for predictable and fair standards from the perspective of patent stakeholders.

1. Case Law & Critique

(a) Section 271(a) & Patented Transnational Telecommunication Systems

Section 271(a), the heart of the U.S. Patent Act's statement on infringement, is explicitly territorial in jurisdictional scope.

Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, *within the United States*, or imports into the United States any patented invention during the term of the patent therefor, infringes the patent (emphasis added).¹⁵

Historically, the principle of territoriality under §271(a) was strictly followed by the U.S. Supreme Court.¹⁶ In *Deepsouth Packing Co. v. The Laitram Corporation*, for example, the court observed that “(o)ur patent system makes no claim to extraterritorial effect: ‘these acts of Congress do not, and were not intended to, operate beyond the limits of the United States.’”¹⁷ Transnational telecommunications systems, however, have proven problematic on the issue of territoriality. Telecommunication allows people to communicate over great distances and includes such popular technologies as the Internet, the telephone, and wireless networks. The problem that telecommunication technologies pose from a jurisdictional viewpoint is that the components for their operation may be

¹⁵ 35 U.S.C. § 271(a).

¹⁶ The most cited case in this regard is *Brown v. Duchesne*, 60 U.S. 183 (1857): *See e.g.* LAWRENCE M. SUNG, *PATENT INFRINGEMENT REMEDIES* 15 (2004)(citing *Brown*, 60 U.S. 183 at 195-98) (“[The] acts of Congress do not, and were not intended to, operate beyond the limits of the United States; and as the patentee’s right of property and exclusive use derived from them, they cannot extend beyond the limits to which the law itself is confined. And use of it outside of the jurisdiction of the United States is not an infringement of his rights, and he has no claim to any compensation for the profit or advantage the party may derive from it.”).

¹⁷ *Deepsouth Packing Co. v. The Laitram Corp.*, 406 U.S. 518, 531 (1972): the within quote cited to *Brown*, 60 U.S. 183. Further, at 527: the patentee “must show a s. 271(a) direct infringement by Deepsouth in the United States, that is, that Deepsouth ‘makes’, ‘uses’, or ‘sells’ the patented product within the bounds of this country.”

located in multiple countries. U.S. courts have devised tests in these situations which lack an underlying rationale on territoriality, and thus these tests remain controversial and uncertain in scope.¹⁸

In one line of cases, courts have linked territoriality to the “control point” of the infringing activity. In *Hughes Aircraft Co. v. United States of America*,¹⁹ the patented technology, while manipulated from ground control in the United Kingdom, was physically located on a satellite in outer space. The sole connection to the U.S. was the provision of tracking and data services from American soil. The court held that “use”, in this context, meant direct control, which occurred in the UK and not in the US.²⁰ The same analysis was employed in *Freedom Wireless Inc. v. Boston Communications Group Inc.*²¹ In that case, Rogers, a Canadian company offering pre-paid cell phone communication services within Canada, farmed out the billing services part of the operation to a U.S. firm. The system components were all located in Canada except for a database in the U.S. that determined whether the caller had prepaid services. The court reasoned that the database did not direct, control or monitor the rest of the prepaid system but more closely resembled the tracking and data acquisition services of the U.S. government in *Hughes Aircraft*.²² Rather, the control point was the “network of mobile telephone switching offices in Canada. The mobile switching offices were responsible for identifying those calls that were designated as prepaid, directing the calls to the BCGI nodes for billing services, and then causing the calls to be connected through the Canadian local carrier.”²³

¹⁸ Daniel P. Homiller, *From Deepsouth to the Great White North: The Extraterritorial Reach of United States Patent Law after Research in Motion*, 17 DUKE L. & TECH. REV., 2005, ¶ 30 (the unstated approach of expansive jurisdictional scope as applied to transnational patents disputes may be that the protection of U.S. innovation industries). See also David Wille, *Personal Jurisdiction over Aliens In Patent Infringement Actions: A Uniform Approach Toward the Situs of the Tort*, 90 MICH. L. REV. 658 (1991) (examining the question of where the patent infringement is deemed to have taken place for purposes of asserting personal jurisdiction).

¹⁹ *Hughes Aircraft Co. v. United States of America*, 29 Fed. Cl. 197 (1993). The court cited *Deepsouth* in its holding that U.S. patent law is territorial and should not apply to outer space. *Id.* at 230-31.

²⁰ *Id.* at 242.

²¹ *Freedom Wireless Inc. v. Boston Communications Group Inc.*, 198 F. Supp. 2d 11 (D. Mass. 2002),

²² *Id.* at 17.

²³ *Id.* at 17.

A somewhat different test for patent infringement was adopted in *Decca Limited v. the United States*.²⁴ In that case, a system designed and built by the U.S. government (the alleged infringing system) broadcast radio waves from points located from both within and outside the U.S. for transmission to U.S. ships for navigation purposes. The court found that “ownership of the equipment by the United States, the control of the equipment from the United States and...the actual beneficial use of the system within the United States” justified application of U.S. law.²⁵ While it is not clear whether or not these requirements are cumulative, control and beneficial use at least must occur *within* the United States to trigger infringement under U.S. patent law. This case was cited as a starting point of analysis in *NTP v. RIM*.²⁶

In *NTP v. RIM*, plaintiff Network Technology Partners (NTP) successfully sued defendant Research in Motion (RIM) for patent infringement in respect of the latter’s famous BlackBerry system. The BlackBerry system routes e-mail messages received in a desktop computer account, through redirector software, to the user’s handheld device without a user-initiation connection.²⁷ Specifically, the email redirector software sends an email message from a PC to the BlackBerry Relay via the internet. The Relay routes the message to a partner wireless network, which then delivers the message to the BlackBerry handheld.²⁸ The user is notified instantly of new e-mail messages.²⁹ RIM’s system also permits users to send email messages over the wireless network from their handheld devices.³⁰ Within the US, the Canadian-based RIM sold handheld pagers as well as supplied the software that redirected messages from the server account to the Relay station. RIM also operated the Relay station located in Canada, which provided the connection or “critical interface” between the email system and RF (radio frequency) transmission network. RF networks, however, were neither owned nor operated by RIM.

²⁴ *Decca Limited v. the United States*, 544 F.2d 1070 (Ct. Cl. 1976).

²⁵ *Id.* at 1083. For background details of the case, see also Cameron Hutchison & Moin A. Yahya, *Lessons and Questions from the BlackBerry Saga*, in CANADIAN PERSPECTIVES ON US POLICY: ESSAYS FROM A US POLICY RESEARCH WORKSHOP 73 (Constance Smith ed.,) (The Institute for United States Policy Studies, University of Alberta).

²⁶ *NTP Inc.*, 418 F.3d at 1315-16.

²⁷ *Id.* at 1287.

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.* at 1290.

The BlackBerry system is, to a certain extent, similar to the U.S. patents held by the plaintiff NTP which disclosed a method for receiving electronic mail via wireless systems.³¹ As opposed to the BlackBerry system, however, the NTP patents do not provide for a method to compose and send messages from the receiver.³²

Based on *Hughes Aircraft* and *Freedom Wireless*, RIM argued that the “control point” of the wireless system was the relay located in Canada and thus, there could be no infringement of U.S. patent law.³³ The CAFC disagreed and found that RIM’s BlackBerry system infringed the claims of NTP’s patents under §271(a). While acknowledging the limited territorial scope of §271(a), the CAFC wrestled with the “added degree of complexity” occasioned by components located in various places whose function and use are separate from their physical location.³⁴ Nevertheless, by interpreting “use” in §271(1)(a) broadly to mean “put into action or service”,³⁵ the Court reasoned that

The use of the claimed system under section 271(1)(a) is the place at which the system as a whole is put into service, i.e. where control of the system is exercised and beneficial use of the system obtained.³⁶

The court seems to declare a requirement of control *and* beneficial use of the system *within the United States* to bring infringement within the scope of “use” in §271(a).³⁷ Instead of the *ownership, control and beneficial use* tripartite as per *Decca*, the court opted for only the latter two requirements.

³¹ NTP, Inc. v. Research in Motion, Ltd., 261 F. Supp.2d 423, 426 (E.D.Va. 2002).

³² *NTP Inc.*, 418 F.3d at 1288 .

³³ See Yar Chaikovsky & Adrian Percer, *Globalization, Technology without Boundaries & the Scope of U.S. Patent Law*, 9 INTELL. PROP. L. BULL. 95, 97 (2004-05).

³⁴ *NTP Inc.*, 418 F.3d at 1313.

³⁵ *Id.* at 1317.

³⁶ *Id.* The CAFC distinguished between NTP’s method and system patents for the purposes of infringement. In respect of the *method* patent, the court agreed with RIM that a finding of direct infringement by RIM's customers under § 271(a) was precluded by the location of RIM's Relay in Canada. *Id.* at 1319.

³⁷ *Id.* Later, the court indicates that “the location of the use of the communications system as a whole occurs in the United States” thus satisfying the situs of use for the purposes of § 271(a).

The “control point” test suffers from indeterminacy of meaning. In the *NTP v. RIM*, for example, one struggles to identify which component corresponds to the control point. According to *NTP v. RIM* and *Hughes Aircraft*, it appears the control point is determined by the location of the operator of the technology, i.e. the user of the Blackberry handheld pager. *Freedom Wireless*, however, suggests that control pertains to the switching point, which in *NTP v. RIM* corresponds to the relay station located in Canada. The control point test, in other words, simply begs the question, all the more so since courts have failed to articulate any justifying rationale for the approach.³⁸ The test of “beneficial use” is similarly ambiguous. If, for example, I access my friend’s BlackBerry in the U.S. because she wants me to monitor her email messages (suppose she is visiting a country where her pager won’t work), I may be controlling the technology in the U.S. but the beneficial use is for my friend located outside the country. In such a case, are my actions infringement under a control *and* beneficial use test? Furthermore, the added requirement of ownership in the *Decca* case confuses matters further and is similarly devoid of any apparent rationale. For example, if I am using my friend’s BlackBerry to monitor email messages that I have asked others to send to her account for my benefit, it seems rather arbitrary to find against infringement when I have controlled and received benefit from the infringing device, though technically I do not own it.

In our view, the above tests lack coherence because they attempt to correlate the terminology of “use” with ownership, control and/or beneficial use within U.S. territory. While ostensibly this connection appears meaningful, one sees that these tests may, in certain fact situations, lead to arbitrary or senseless results. This is because the starting framework is wrong. As we will show in the next section, the true meaningful connection between infringement and jurisdictional scope is the principle of territorial market rights.

(b) Section 271(f) and the Export of Components of Patented Technologies

³⁸ Commentators have noted that the failure of the court to adequately explain or articulate a theory of control and beneficial use will cause confusion: see *e.g.* Homiller *supra* note 18 (in connection with the Federal Circuit’s ruling) We would argue the same point is valid in connection with the CAFC’s ruling.

Infringement provisions in the U.S. Patent Act have expanded in recent years in an effort to protect domestic innovation industries from the competitive pressures of expanding international trade. Section 271(f) concerns the export of unpatented components for patented combination offshore, and marks a departure from a strict territoriality principle:

Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are combined in whole or in part, in such manner as to actively induce the combination of such components outside the United States in a manner that would infringe the patent if the combination occurred with the United States, shall be liable as an infringer.³⁹

Section 271(f) was enacted in response to the Supreme Court’s decision in *Deepsouth*. In that case, the plaintiff held two combination patents for the process of deveining shrimp.⁴⁰ The defendant exported components – themselves unpatented – for assembly abroad, with the resulting combination infringing the U.S. patents. The action was based on a provision very similar to current §271(a), i.e. exclusive right to making, using or selling within the United States, which the court interpreted in a strict territorial sense. The court ruled that the making, using or selling of the combination patent – as opposed to its individual parts – must occur within the territorial confines of the US.⁴¹ Since assembly occurred outside of territorial boundaries, there could be no infringement of the combination patents. In order to close this “loophole”, Congress enacted §271(f) which extended infringement to suppliers of “all or a substantial portion” of components to a patented invention for assembly outside the US.⁴²

Courts have struggled with defining the scope of §271(f). In *Pellegrini v. Analog Devices*, the issue was whether the transmission of instructions for making the patented invention abroad constituted supplying components.⁴³ The court held that ‘supplying or

³⁹ 35 U.S.C. § 271(f).

⁴⁰ *Deepsouth*, 406 U.S. at 519–20.

⁴¹ *Id.* at 527.

⁴² On closing this “loophole” see: *Eolas Technologies Incorp.v. Microsoft Corp.*, 399 F.3d 1325, 1340 (Fed. Cir. 2005). Suppliers must also actively induce combination outside the U.S.

⁴³ *Pellegrini v. Analog Devices Inc.*, 375 F.3d. 1113 (Fed. Cir. 2004).

causing to supply’ in §271(f) “refers to physical supply of components, not simply instructions or oversight. In other words, although Analog may be giving instructions from the United States that cause the components of the patented invention to be supplied, it is undisputed that those components are not being supplied in or from the United States.”⁴⁴ But more recent interpretations have expanded the scope of §271 (f) considerably. In *Union Carbide v. Shell Oil*, the CAFC extended §271(f) infringement to include components for patented *processes*.⁴⁵ Furthermore, in *Eolas Technologies Inc. v. Microsoft Corp.*, the defendant exported disks that contained software source code for the Internet Explorer browser that infringed the plaintiff’s patent. Since computer programs are patentable, the court reasoned, it follows that program code can constitute part or a component of a patented invention, bringing the export of master disks within §271(f).⁴⁶ According to these more recent cases, then, the scope of §271(f) was extended to tangible and intangible components that were supplied for patented products and processes.⁴⁷

Fortunately, the Supreme Court in *AT&T v. Microsoft*,⁴⁸ has pulled back on these expansive interpretations of §271(f) by the CAFC. In that case, the defendant Microsoft sent speech processing software to foreign manufacturers, by way of master disk and electronic transmission. Copies from the master disk were then made, and the software

⁴⁴ *Id.* at 1118.

⁴⁵ *Union Carbide Chem. & Plastics Tech. Corp. v. Shell Oil Co.*, 425 F.3d 1366, 1378-79 (Fed. Cir. 2005).

⁴⁶ *Eolas Technologies*, 399 F.3d at 1339. The court attempted to reconcile its holding with *Pellegrini* by suggesting that latter “required only that components are physically *supplied* from the United States...[it does not impose] a tangibility requirement.” *Id.* at 1341.

⁴⁷ It is interesting to note that the evolution of the jurisprudence in this area tracks that of the jurisprudence of personal jurisdiction. The early personal jurisdiction jurisprudence tied jurisdiction of the courts to the person or the presence of property located in the state. *Pennoyer v. Neff*, 95 U.S. 714 (1877). By the 1940s, the Supreme Court adopted a presence test that used factors such as minimum contacts to determine whether a state court had personal jurisdiction over the defendant. Even if the defendant was not physically located in the state, if they directed and aimed their activities towards the state, the state courts would have jurisdiction. *International Shoe Co. v. Washington*, 326 U.S. 310 (1945). The law as it stands today has retreated somewhat from an expansionist reading of *International Shoe*, but still confers quite a bit of power over out of state defendants. See Patrick J. Borchers, *Jones v. Flowers: An Essay on a Unified Theory of Procedural Due Process*, 40 CREIGHTON L. REV. 343 (2007); Patrick J. Borchers, *The Death of The Constitutional Law of Personal Jurisdiction: From Pennoyer to Burnham and Back Again*, 24 U.C. DAVIS L. REV. 19 (1990). Similarly, American conflict of law jurisprudence has evolved from a territorial based *situs of the tort* or contract rules to the interest based rules; whereby instead of mechanically looking to the place of the tort or contract for the choice of law, the courts examine whose state’s interest is best served by applying that state’s law. Alfred Hill, *The Judicial Function in Choice of Law*, 85 COLUM. L. REV. 1585 (1985) (tracing the evolution of choice of law rules in the United States).

⁴⁸ *Microsoft*, 127 S. Ct.

installed onto computers, in foreign jurisdictions. Actual infringement occurred when the software was operated on these computers; though the question remained whether “components” for patent infringement were “supplied” from the US. The CAFC decision focused on the statutory interpretation of the word “supply”. The majority held that Microsoft had in fact supplied the infringing components by sending the disks and electronic transmissions abroad; in a further stretch, Microsoft was also liable for all resulting copies made from a disk or transmission. The court recognized that “Congress obviously intended the statute to have an extraterritorial effect to the extent that the exportation was facilitated by acts in the United States.”⁴⁹ The dissenting opinion, on the other hand, read the provision narrowly noting that the majority was extending infringement to copying within, as opposed to supplying to, a foreign jurisdiction. Copying and supplying, in other words, are distinct acts that the majority conflated for the purposes of infringement.⁵⁰

The United States Supreme Court reversed the CAFC holding that abstract software code, separate from a physical medium, is not a “component” under §271(f).⁵¹ The court seemed intent on interpreting the language of §271(f) narrowly given the presumption against the extraterritorial application of patent law.⁵² While some of negative commentary that has attacked the policy implications of this provision⁵³ will now be muted by the Supreme Court’s decision in *AT&T*, our issue with §271(f) focuses

⁴⁹ *AT&T Corp.*, 414 F.3d at 1371.

⁵⁰ Further, the dissent suggested that the majority’s holding offered greater protection to software (as opposed to other kinds of products) that is replicated offshore, thus offending TRIPS Article 28 prohibiting non-discriminatory treatment between technologies. The dissent noted that *AT&T* is not without remedy under a restrictive interpretation of section 271(f) but could enforce its patents in foreign jurisdictions through patent filings. The Supreme Court upheld the dissent’s view that supplying and copying are separate acts: *supra* note 48 per Ginsburg J. at 13

⁵¹ *Id.* per Ginsburg at 9-10; in other words, to be a component, the software would need to be expressed as a computer readable copy such as a CD ROM. As such, components were not supplied from the the U.S. for patented combination abroad.

⁵² *Id.* Per Ginsburg J. at 2: “Recognizing that §271(f) is an exception to the general rule that our patent law does not apply extraterritorially, we resist giving the language in which Congress cast §271(f) an expansive interpretation.” And at 15 noting the statutory presumption against the extraterritorial application of statutes.

⁵³ See James R. Farrand, *Territoriality and Incentives Under the Patent Laws: Overreaching Harms U.S. Economic and Technological Interests*, 88 J. PAT. & TRADEMARK OFF. SOC’Y 761, 762 (2006) (his thesis being that 271(f) has an “extraordinarily bad benefit/cost profile: It cannot significantly enhance incentives for innovation or investment, but it weighs heavily against companies that produce, or consider producing, technologically advanced components in the U.S.”).

on its compatibility with the schema of the TRIPS Agreement. Even under a restrictive interpretation, this provision is out of sync with international trade principles that inform the TRIPS Agreement.

(c) Section 271 (g) and Importing Products Made from Patented Processes

Section 271 (g), which deals with the importation of products made from patented processes, fairly reflects international patent law norms:

Whosoever without authority imports into the United States or offers to sell, sells, or uses within the United States a product which is made by a process patented in the United States shall be liable as an infringer, if the importation, offer to sell, sale or use of the product occurs during the term of such process patent...

The purpose of this provision is to protect the market rights of a process patent in one jurisdiction from competition from products made by an “infringing” process patent in another jurisdiction. In other words, if I patent a better way to make a mousetrap which I file in the United States, my rights would be undermined if mousetraps made by my process were allowed to be imported into the country. This provision properly protects a patent holder’s legitimate rights in the territorial market. Section 271 (g) closely reflects the wording of the Article 28(1)(b) TRIPS though the latter provision specifies that the product must be “obtained directly by that process.” This directness requirement has nonetheless been followed in U.S. case law thus far. In *Bayer v. Houser*, the CAFC considered whether a pharmaceutical that was developed abroad through the assistance of a process patent that determined whether an agent inhibited or activated protein activity fell within §271 (g).⁵⁴ Since the impugned process patent was used to extract data in the development of the pharmaceutical, and was not used to manufacture the actual product, the CAFC held that the product did not directly result from the process and thus was outside the scope of §271 (g).⁵⁵

⁵⁴ *Bayer AG v. Housey Pharmaceuticals Inc.*, 340 F.3d 1367, 1370 (Fed Cir. 2003).

⁵⁵ The court interpreted ‘made’ in 271(g) to mean manufacture and data production, as occurred in this case. Timothy R. Holbrook, *Extraterritoriality in U.S. Patent Law* (2006), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=944157 at 21 (in *NTP v. RIM*, the court was even clearer in suggesting that the provision only applies to the importation of physical products).

2. The Need for Predictable and Fair Rules

U.S. rules on patent infringement, in cases involving foreign elements, are uncertain. By no means is this a problem unique to U.S. law. In a recent case, Canada's Supreme Court contemplated the issue of territorial reach of copyright law in respect of digital infringement on the internet that occurred across multiple jurisdictions.⁵⁶ The court proposed a "real and substantial connection" test as a means of preventing overreaching of Canadian copyright law but failed to offer greater certainty: "In terms of the Internet, relevant connecting factors would include the *situs* of the content provider, the host server, the intermediaries and the end user. The weight to be given to any particular factor will vary with the circumstances and nature of the dispute."⁵⁷ In the final analysis, rules like "real and substantial connection" or "control and beneficial use" fail to offer an acceptable degree of certainty to IP stakeholders about whether or not rights will be infringed by specific activities undertaken within a given jurisdiction.

Absent certainty about the reach of a nation's patent law, it may be impossible for a business to know if it is committing an act of infringement. An *ex post* finding of infringement in these circumstances will be unfair since the party will not have had advance warning of the potential for infringement. Thus, "parties in their dealings with foreigners are unable to know with certainty what laws will be applied to their transactions in the event of litigation... a system that fails to give parties adequate notice of the laws with which they must comply is also unfair."⁵⁸ The possibility of concurrent or overlapping legislative jurisdiction, i.e. where two or more countries patent laws apply to a single infringement, also presents problems. Concurrent legislative jurisdiction can lead to greater expense for the parties⁵⁹ who may be exposed to the patent laws of many countries in respect of a single act of infringement. Furthermore, overlapping legislative

⁵⁶ Society of Composers, Authors and Music Publishers of Canada v. Canadian Association of Internet Providers [2004] S.C.J. 44 (Can).

⁵⁷ *Id.* ¶ 61.

⁵⁸ Andrew L. Strauss, *Beyond National Law: The Neglected Role of the International Law of Personal Jurisdiction in Domestic Courts*, 36 HARV. INT'L L. J. 373, note 418 (1995).

⁵⁹ *Id.* at 419.

jurisdiction may lead to unforeseen results, multiple liabilities, judgments commanding inconsistent behavior, and the imposition of one country's innovation policies onto another state.⁶⁰

Predictability and certainty for patent holders and technology users is thus of prime importance for establishing a principle of legislative jurisdiction. The principle of territorial market rights does not propose to rid the problem of overlapping prescriptive jurisdictional claims by courts, though it should limit the incidence of this happening. Where overlapping jurisdiction is unavoidable, fairness considerations should ensure that any potential liability is limited to actual harm suffered to a patent holder, according to her legitimate rights, on an international scale. In other words, an infringer should not, cumulatively speaking, be held liable for an amount in excess of the total loss experienced by a patent holder in respect of their legitimate patent rights regardless of the jurisdictional question.

Often, predictability will result in a measure of fairness though the two do not always happily coincide. One commentator has offered an alternative basis for determining the territorial scope of patent law pertaining to transnational telecommunications patents in cases like *NTP v. RIM*. His solution is to connect jurisdiction with the location of the infringing component of the system. In *NTP v. RIM*, for example, the “patently distinct” component infringed was the interface switch embodied in the Canadian-based Relay station.⁶¹ Thus, since the patentably distinct component of NTP's patents was situated at the Relay station in Canada, then U.S. patent law could not apply under this approach.⁶² If NTP had wanted to obtain patent protection then, under this rule, they would have to file in Canada and every jurisdiction

⁶⁰ Rochelle Dreyfuss, *The ALI Principles on Transnational Intellectual Property Disputes: Why Invite Conflicts*, 30 BROOK. J. INT'L L. 819, 840-41 (2004-05).

⁶¹ John W. Osborne, *A Rational Analytical Boundary for Determining Infringement by Extraterritorially-Distributed Systems*, 46 IDEA: INTELL. PROP. L. REV. 587, 603 (2006).

⁶² There is some doctrinal support for this approach. Bridget A. O'Leary Smith, *NTP Inc. v. Research in Motion Ltd: Losing Control and Finding the Locus of Infringing Use*, 46 JURIMETRICS J. 347, 440-41 (2006) (in *Deepsouth*, the Supreme Court suggested that expanding territorial application was a matter for Congress failing which, inventors should seek patent protection “abroad through patents secured in countries where his goods are being used”).

where they fear infringement might occur. While sensible in theory, this approach suffers from impracticality and unfairness. Especially as applied to telecommunications and computer networks, this idea may be too unwieldy. Companies would need to engage in massive expenditures to ensure global protection of their inventions by filing in every country.⁶³ Thus, while the “patentably distinct” test sets a predictable rule, it is unfair to patent holders who are burdened with expensive and burdensome patent applications in numerous countries.

Considerations of predictability and fairness are an important starting point for developing a jurisdictional principle for transnational patent disputes. The next step is to determine what, in essence, the international patent regime seeks to protect through a principle of territoriality.

B. International Law and Patents

The best solution for settling jurisdictional issues is a multilateral treaty which sets out clear rules pertaining to *inter alia* the legislative reach of national patent law.⁶⁴ Short of that (which is where we are at the moment), states and judicial bodies risk international friction, unfair results for private litigants, and frustrate the degree of harmonization necessary to increase the chances of securing an eventual treaty when they assert their law without restraint or concern for the sovereignty or laws of other states.⁶⁵ States have an interest in applying their laws responsibly and with regard for the rights and interests of other states. As Straus observed, “[w]hen states unilaterally attempt to prescribe the law that defines their own jurisdiction, they inherently participate in a

⁶³ *Id.* at 452. While the PATENT COOPERATION TREATY, June 19, 1970, *available at* <http://www.wipo.int/pct/en/texts/articles/atoc.htm> would facilitate filings in multiple jurisdictions, it does not alleviate the high cost of international protection.

⁶⁴ This obvious point is echoed in the *Society of Composers, Authors and Music Publishers of Canada v. Canadian Association of Internet Providers* [2004] S.C.J. 44, note at (Can). *Society of Composers*, [2004] S.C.J. 44.

⁶⁵ Michael Akehurst, *Jurisdiction in International Law*, in *JURISDICTION IN INTERNATIONAL LAW* 25, 111 (W. Michael Reisman ed., 1999) (“(t)he rules of private international law adopted by one country are unlikely to be satisfactory if they are adopted without paying attention to the rules adopted by other countries...[P]rivate international law will develop in different directions along increasingly divergent lines. Such attitudes will also obstruct the unification of private international law by treaty).

broader transnational process of state definition...[this attempt] is necessarily an act impacting on the division of responsibility of all members of the community.”⁶⁶

In this section, we identify the restraints placed on states by international law in their exercise of prescriptive jurisdiction. We find that this restraint is rather too uncertain and, taking a normative turn, suggest that states look to the TRIPS Agreement as an “objective standard” by which to measure their territorial interest in patent infringement. The proposal advanced is that states should be guided by a principle of territorial market rights that informs the multiple rights (or grounds of infringement) associated with a patent grant. We apply this principle to transnational telecommunications disputes – namely the *NTP v. RIM* fact pattern as well as infringement arising over the internet. We conclude this paper with an analysis of why §271(f) is abhorrent to the TRIPS regime of patent protection and international trade.

1. Public International Law

Jurisdiction is a term “that describes the limits of legal competence of a State...to make, apply, and enforce rules of conduct upon persons.”⁶⁷ Public international law scholars characterize jurisdictional issues involving foreign elements in one of three ways: (1) the power of a State to perform acts in another State’s territory (executive); power of a national court to try a case involving a foreign element (judicial); and (3) state power to apply laws involving a foreign element (legislative).⁶⁸ These types of jurisdictions are determined independently of one another, and invite different kinds of considerations. The basis for judicial jurisdiction – or the power of a court to hear and rule on a case - varies by country and subject area.⁶⁹ Efforts to find consensus on a clear

⁶⁶ Strauss, *supra* note 58, at 406.

⁶⁷ Vaughn Lowe, *Jurisdiction*, in INTERNATIONAL LAW 333 (Malcolm D. Evans ed., 2d ed. 2006).

⁶⁸ See e.g. Akehurst, *supra* note 65, at 25.

⁶⁹ *Id.* at 50 - 57 (Grounds for judicial jurisdiction, in common law countries, have traditionally been territorially based, whether by the presence of the defendant (through service upon a defendant) or on the basis of a defendant’s assets in that concerned state. Jurisdiction has also been found based on the nationality, domicile or residence of the plaintiff. Many states claim jurisdiction on the grounds of subject-matter of the dispute, i.e. if a tort is committed within the territory of a state, then may suffice notwithstanding to present location of individual litigants. Thus, “[i]t is hard to resist the conclusion that...customary international law imposes no limits on the jurisdiction of municipal courts in civil trials.”

and predictable uniform rule applicable to judicial jurisdiction in respect of intellectual property disputes has proven elusive.⁷⁰ Legislative jurisdiction need not coincide with judicial jurisdiction. Thus a court with the judicial jurisdiction may apply foreign laws to resolve a dispute before it.⁷¹ While commentators have noted that the assertion of legislative jurisdiction is (similar to its judicial counterpart) *laissez faire*,⁷² this is neither a desirable nor inevitable result. It is undesirable, as was discussed above, because uncertain jurisdictional rules lead to unpredictability that may inhibit economic activity and lead to unfair results. Uncertain legislative jurisdiction is also not inevitable since we may find objective standards in international law to help states informally coordinate assertions of legislative jurisdiction.

In developing this argument, it is appropriate to start with the basic restraints on prescriptive jurisdiction found at international law. The territoriality of domestic legislative competence, at international law, is rooted in the principle of state

In the private international law realm, judicial jurisdiction is equivalent to adjudicatory jurisdiction, i.e. the power for a state's court to adjudicate a transnational dispute). Arthur Taylor von Mehren, *Adjudicatory Jurisdiction: General Theories Compared and Evaluated*, 63 B.U. L. REV. 279, 285-89 (1983) (adjudicatory jurisdiction has generally been determined on the basis of either *power* or *fairness* theories. Power theories, for example, justify jurisdiction on the basis of effective control over the defendant, e.g. service upon the defendant present in the jurisdiction. Fairness theories, on the other hand, weigh a number of considerations such as control over the defendant, but also ties between the forum each of the following: the litigants themselves, practical concerns of the litigation (e.g. presence of evidence) and the underlying controversy itself).

⁷⁰ Dreyfuss, *supra* note 60, at 830-32 (The American Law Institute (ALI) has attempted to rationalize the jurisdictional claims of states in connection with transnational intellectual property disputes. With respect to specific jurisdiction (adjudicatory), the guidelines recommend that where a defendant has “substantially acted” in a state, jurisdiction may be asserted of all claims of harm “arising out of the defendant’s in-state activity, no matter where the harm is felt.” Where there is less connection to the state, the guidelines recommend that courts scrutinize activities to determine whether the defendant was “directing the alleged infringement to the state,” defined as initiating or maintaining “contacts, business or an audience... on a regular basis”. Further the court should look to see if the defendant took reasonable steps to avoid so acting in the state. The Principles further advocate that, in the interests of efficiency, states asserting subject matter jurisdiction (i.e. applying local law in the location of where the transaction occurs) should deal with all claims arising from the transaction, where possible with the caveat that this be consistent with principles of personal jurisdiction set out under the Principles).

⁷¹ Akehurst, *supra* note 65, at 59.

⁷² *Id.* at 187 (due to the numerous instances where the forum jurisdiction has applied its own law, in the absence or a real connection between the facts and the forum, there are in fact no limits to legislative jurisdiction and the rules concerning civil jurisdiction, according to this state practice, must be seen as *laissez faire*). Dreyfuss, *supra* note 60, at 843 (as to choice of law, the ALI Principles employ a conservative territorial principle – i.e. governed by the law of each country in which infringement occurs. . . However, there was a “strong temptation” to apply the law of the country most connected to the work (regardless of loci of infringement) so that each country could maximize production of creative works in their jurisdiction).

sovereignty.⁷³ Since states at international law are sovereign equals, “jurisdiction implies respect for the corresponding rights of other states.”⁷⁴ States then are not to encroach on the sovereign rights of other states through jurisdictional overreach.⁷⁵ Sir Gerald Fitzmaurice in *Barcelona Traction*, conceded the absence of hard and fast rules in international law on jurisdiction but was steadfast that international law did place limits on state discretion on the matter, including “...an obligation to exercise moderation and restraint as to the extent of the jurisdiction assumed by the courts in cases having a foreign element, and to avoid undue encroachment on a jurisdiction more properly appertaining to, or more appropriately exercisable by, another State.”⁷⁶

The notion of comity also exerts some restraint on the assertion of jurisdiction. Comity in connection with foreign laws has been described as “something more than courtesy” but less than a duty imposed by common law.⁷⁷ To be sure, some courts have treated rules of comity as binding international law in the sense of refraining from accepting jurisdiction where it would involve interfering with the internal affairs of another state.⁷⁸ Comity finds expression at the highest level of the U.S. courts. Justice Breyer in *Hoffman La Roche v. Empagran*, in reference to the rule of statutory construction that avoids the interpretation of ambiguous statutes so as to unreasonably interfere with the sovereign rights of other nations, stated “This rule of statutory construction cautions courts to assume that legislators take account of the legitimate

⁷³ F.A. Mann, *The Doctrine of International Jurisdiction Revisited After Twenty Years*, in JURISDICTION IN INTERNATIONAL LAW, *supra* note 65, at 140[hereinafter Mann, *The Doctrine*] (author also cites the principle of non-intervention, which he seems to suggest is the same thing)

⁷⁴ *Id.* at 140 (Mann goes so far as to suggest that the fundamental principles of international law – the equality of states, the principle of non-territoriality and the principle of non-intervention – are essential starting points for guiding jurisdictional prescriptive competence. According to him, these principles suggest non-interference in the affairs of other countries and imply reciprocity insofar as a state should not accept prescriptive jurisdiction which, in reversed circumstances, it was prepared to concede). *See also* D.W. Bowett, *Jurisdiction: Changing Patterns of Authority Over Activities and Resources*, in JURISDICTION IN INTERNATIONAL LAW, *supra* note 65, at 251-54.

⁷⁵ Akehurst, *supra* note 65, at 69 (to the extent that states intend to create mischief in other countries or aim to advance interests “illegitimately at the expense of other States”, prescriptive measures may constitute abuse of rights).

⁷⁶ Mann, *The Doctrine*, *supra* note 73, at 146-47.

⁷⁷ Akehurst, *supra* note 65, at 96.

⁷⁸ Lawrence Collins, *Comity in Modern International Law*, in 89 REFORM AND DEVELOPMENT OF PRIVATE INTERNATIONAL LAW: ESSAYS IN HONOUR OF SIR PETER NORTH at 96 (James Fawcett ed., 2002) (citing *Buck v. Attorney General* [1965] Ch. 745 (Diplock J.)).

sovereign interests of other nations when they write American laws. It thereby helps the potentially conflicting law of different nations work together in harmony – a harmony particularly needed in today’s highly interdependent world.”⁷⁹ While courts may heed fundamental principles of international law and notions of comity in individual cases, these restraints are indeterminate such that predictability and fairness are not achieved.⁸⁰

Mann long ago complained that the territoriality principle is ‘too crude’ an instrument to apply to modern transnational disputes. He argued that public international law demanded both a sufficiently close connection between the state and the person, thing or event to establish prescriptive jurisdiction.⁸¹ While Mann does not deny the possibility of concurrent jurisdiction, he did reject the determination of jurisdictional questions on the basis of state or judicial discretion. Instead, he suggested that international jurisdiction (and in this context referring specifically to legislative jurisdiction) should be determined on the basis of objective standards of international law, including treaty law.⁸² These objective standards – as we will argue in the next section – can be derived from the TRIPS Agreement.

2. TRIPS: Territorial Market Rights as the Objective Standard

The territoriality of patent law is nicely complemented by the WTO TRIPS, Agreement, which establishes a territorial regime of patent protection. The TRIPS

⁷⁹ Dreyfuss, *supra* note 60, at 840.

⁸⁰ Dreyfuss, *supra* note 60, at 840 (comity seems not to address problems of transnational infringement where “overlapping prescriptive authority” may be engaged by two or more states.)

⁸¹ F.A. MANN, *STUDIES IN INTERNATIONAL LAW* 28 (1973) [hereinafter MANN, *STUDIES*] (specifically, he stated: “...a State has (legislative) jurisdiction, if its contact with a given set of facts is so close, so substantial, so direct, so weighty, that legislation in respect of them is in harmony with international law and its various aspects (including the practice of States, the principles of non-interference and reciprocity and the demands of interdependence). A merely political, economic, commercial or social interest does not in itself constitute a sufficient connection. Whether another State has an equally close or a closer, or perhaps the closest, contact, is not necessarily an irrelevant question, but cannot be decisive where the probability of concurrent jurisdiction is conceded.”) . Mann, *The Doctrine*, *supra* note 73, at 187.(disputes the separateness of judicial jurisdiction arguing that a state’s right to legislate includes a right of adjudication He nonetheless goes on to suggest that adjudicative jurisdiction is firmly rooted in the principle of territoriality, in particular the rule that adjudicative jurisdiction lies with the defendant’s court).

⁸² *Id.* at 37 (referring specifically to principles of international law such as non-interference and abuse of rights, but also Article 38 International Court of Justice sources, i.e. treaty, custom, and general principles of international law).

Agreement does not purport to prescribe choice of law rules, though it provides a useful guide for state courts to informally harmonize prescriptive jurisdiction in accordance with their sovereign rights. The territoriality of TRIPS is more by implication of the treaty's regime rather than explicit provision, specifically in terms of market rights to which a patent holder is entitled in securing a patent grant in a chosen jurisdiction.

(a) A Principle of Territorial Market Rights

TRIPS establishes minimum standards of patent protection in WTO Member countries. This means that WTO Member states are required to grant 20 year term patents to inventions that are novel, non-obvious and useful on a non-discriminatory basis.⁸³ The territorial nature of the regime is revealed, first of all, by the fact that TRIPS does not offer an “international patent” but establishes a file per country system. That is, if a patent holder wishes to protect her invention in foreign countries, she must file a separate patent application in each of those countries. The converse is also true. A business using innovative technologies in a foreign jurisdiction must conduct a patent search (and if applicable, negotiate a license) prior to setting up operations involving the patented technology.

Importantly, a patented granted in a Member country entitles the owner to certain rights of exclusion:

A patent shall confer on its owner the following exclusive rights

- (a) where the subject matter is a product, to prevent third parties not having the owner's consent from the acts of: making, using selling, offering for sale, selling, or importing for these purposes that product;

⁸³ Trade Related Aspects of Intellectual Property Rights Agreement, April 15, 1994, 33 I.L.M 81 [hereinafter TRIPS] (TRIPS sets minimum standards *id.* at Art. 1: “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” These standards include a 20-year term of protection from patent filing date (*Id.* at art. 33); patents to be provided without discrimination as to place of invention, field of technology or whether imported or locally produced (*Id.* at art. 27); and national treatment such that patent protection of non-nationals is to be no less favorable than for nationals (*Id.* art. 3). As well, states are to provide meaningful enforcement of IP rights (*Id.* part III)).

- (b) where the subject matter of a patent is a process, to prevent third parties not having the owner's consent from using the process, and from the acts of: using, offering for sale, selling, or importing for these purposes at least the product obtained directly by that process.⁸⁴

The essence of a patent is to grant rights of exclusion to the holder. This bundle of rights – which may overlap depending on the nature of the infringing activity - comprise the *making, using, selling, offering to sell, and importing* the patented product or process. Canada's Supreme Court, for example, has characterized infringement as “rights of full enjoyment of the monopoly granted by the patent.”⁸⁵ The guiding principle to determine infringement, according to this court, is whether a defendant's activity has deprived the inventor “in whole or in part, directly or indirectly, of full enjoyment of the monopoly conferred by law.”⁸⁶ In that case, the court considered whether the planting of a patented genetically modified seed by a farmer, who did not utilize the herbicide resistant benefits of the genetic modification in the resulting plant, constituted “use” under the Canadian *Patent Act*.⁸⁷ The court found that, even a stand by utility constituted “use” and thus the infringing farmer derived a commercial benefit that deprived the patent holder of its full enjoyment of the monopoly.

Extending this analysis, and given the TRIPS regime of file per country registration, a patent holder should be entitled to the full territorial market rights in each jurisdiction in which a patent is granted. Infringement of these market rights can best be guided by the following principle: the patent holder is entitled to the full commercial value of its exclusive rights, whether directly or indirectly obtained, within the territorial boundaries of the relevant market. Thus, each ground of infringement - *making, using, selling, offering to sell, and importing* - must be considered in terms of *where* the market rights for the patent have been infringed.

Territoriality that is based on preserving the rights of a patent holder within markets associated with a patent grant would seem to be the most appropriate principle of

⁸⁴ *Id.* at art. 28(1).

⁸⁵ *Monsanto Canada Inc. v. Schmeiser* [2004] S.C.J. 29 (Can.).

⁸⁶ *Id.* ¶ 35.

⁸⁷ *Id.*

analyzing jurisdictional reach for the following reasons. First, as already noted, it corresponds to the schema of the TRIPS regime. Second, protection of market rights is what patent holders are ultimately interested in preserving by filing a patent in a given jurisdiction. Third, determining whether market rights have been exploited has a determinacy that is lacking under current rules. Fourth, preserving market rights maintains a robust incentive to invest in research and development, and disclose, thus reinforcing the rationales of patent protection.⁸⁸ Fifth, this rule offers predictability and fairness for patentees and technology users both as a hard and fast rule and in terms of the onus placed on these stakeholders as to who files a patent or conducts a patent search in the subject country. Sixth, if all states followed this rule, the possibility of overlapping jurisdiction and damages being imposed on infringers markedly decreases.

(i) Make, Use, Sell & Offer to Sell

The next step is to apply the principle of territorial market rights in respect of each ground of infringement. The grounds for infringement itemized in Article 28 TRIPS are “considered fairly common in industrialized nations.”⁸⁹ There is no hierarchy among these exclusive rights,⁹⁰ though they are separately actionable grounds and invite

⁸⁸ The classic arguments for patent protection are premised on the need for *ex ante* economic incentive to encourage invention and its disclosure. The grant of exclusive rights by way of patent is a necessary legal construct since the ideas behind inventions are non-excludable and non-rivalrous, i.e. without legal protection, I can not exclude others from using my idea nor can use of the idea be depleted by multiple users. This ‘public goods’ nature of ideas means that, without legal intervention, the market will undersupply these goods. Without the promise of a patent monopoly, in other words, inventors would have no incentive to invent and technological progress would suffer. Thus a patent imposes artificial scarcity to fence off the idea from otherwise free-riding appropriation through copying. In light of this, there are two *ex ante* incentive rationales. First, the ‘incentive to invent and to innovate’ rationale holds that innovation will not be maximized unless inventors (and investors) have hopes of recouping their research and development costs, together with reasonable profits, upon fruition of an innovation. A second incentive, more commonly referred to by U.S. courts and commentators, is the ‘exchange for secrets’ or disclosure rationale which holds that inventors will keep their creations secret unless they are offered legal protection against free-riders who will copy or imitate their ideas; in order to induce disclosure, society offers patent protection. The ability of states to protect full commercial monopoly rights with its territory, as our proposal suggests, should maintain the the strength of these incentives.

⁸⁹ DANIEL GERVAIS, *THE TRIPS AGREEMENT: DRAFTING HISTORY AND ANALYSIS* 153 (1958).

⁹⁰ NUNO PIRES DE CARVALHO, *THE TRIPS REGIME OF PATENT RIGHTS* 247 (2005) (citing the WTO Panel Report in *Canada- Patent Protection of Pharmaceutical Products* available at <http://dsp-psd.pwgsc.gc.ca/Collection-R/LoPBdP/BP/bp354-e.htm>)

independent consideration of territoriality.⁹¹ As is their sovereign right, these grounds of infringement may be interpreted broadly by the national courts of states in accordance with the territorial market rights principle.⁹² But how do we resolve their meaning in a transnational context, i.e. where multi-jurisdictional considerations fall within their scope? This section is aimed at answering these important questions.

Make is defined as “construct; create; form from parts or other substances”.⁹³ In the usual case, “make” will mean assembling or manufacturing a product that, as such, infringes a patent.⁹⁴ The question courts must ask to determine choice of law is: *where* did the manufacture or making of the patent occur? In other words, only if the making occurs within the territorial limits of the United States should U.S. patent law apply. One typical point of controversy with respect to *making* is the repair/reconstruction distinction. At what point does repair of a product under patent become reconstruction such that a second patented product is made?⁹⁵ This need only concern us here when the repair/reconstruction occurs extraterritorially. In that kind of case, the applicable law with respect to ‘make’ is in the repairing jurisdiction; if the product makes it way back into the original jurisdiction, then the applicable law on importation (if it is considered a new product) would apply to the patented item. One could further imagine that assembly of a patented product might occur across several jurisdictions. Here is where the “patentably distinct” analysis, offered above, may be of assistance. Where a patent is infringed within a jurisdiction relative to the stage of production of the article in that

⁹¹ ROBERT L. HARMON, PATENTS AND THE FEDERAL CIRCUIT 401 (7th ed. 2005) (“In analyzing the territorial reach of a U.S. patent, it is important to keep in mind the actionability of each of the separate acts of making, using, and selling. Thus, where the claimed invention is made in this country, it is irrelevant where it is sold. By the same token, one who acquires infringing products in the United States and then resells them in a foreign country does not infringe.”)

⁹² *Id.* at 392 (“The Federal Circuit has promised to interpret these words [i.e. making, use, offer, and sale] broadly.”) See also DAVID VAVER, INTELLECTUAL PROPERTY LAW: COPYRIGHT, PATENTS, TRADE-MARKS 150 (1997), where the author notes that UK and Canadian courts “construe the monopoly expansively.”

⁹³ CANADIAN OXFORD DICTIONARY 870 (Katherine Barber ed., 1998).

⁹⁴ SUNG, *supra* note 16, at 19 (make “...plainly encompasses the construction or assembly of a patented product...”) *Bayer AG*, 340 F.3d at 1377 (in the context of Article 271(g), the court offered a restrained interpretation of ‘made’ to mean the manufacturing of a physical product: “...in order for a product to have been ‘made by a process patented in the United States’, it must have been a physical article that was ‘manufactured’...”).

⁹⁵ See HARMON, *supra* note 91, at 404 ff.

country, then a state should be entitled to make a finding of infringement under the right to make.

Use applies to both products and processes and has been interpreted broadly by national courts.⁹⁶ Indeed, as indicated above, the CAFC in *NTP v. RIM* interpreted “use” in §271(a) broadly to mean “put into action or service.”⁹⁷ Infringement of the right of use in U.S. law even extends to the free display of a patented product for customer perusal.⁹⁸ Importantly, use may cover some significant acts of commercialization that stop short of sales, e.g. renting or leasing out the patented item.⁹⁹ Certain kinds of uses, notably the experimental use exception, are permitted under TRIPS and national patent regimes.¹⁰⁰ However, this exception has been interpreted quite narrowly in the U.S.¹⁰¹ Use of a patented end product technology, under a territorial market rights approach, occurs in the place where the patent is utilized, i.e. the end use of the technology. End use of a product made from a patented process abroad would similarly engage the commercial rights of the importing jurisdiction patent holder in accordance with Article 28(1)(b) TRIPS.

Sell is defined as “exchange (goods, services, etc...) for money.”¹⁰² The right to sell applies to both products and processes, though the sale of components to infringe a patented process is not covered by U.S. law.¹⁰³ The distribution chain of a product, from

⁹⁶ *Monsanto v. Schmeiser* [2004] 1 S.C.R. 902 (the starting point of analysis was the plain, or dictionary meaning, of use as “cause to act or serve for a purpose; bring into service; avail oneself of.” Based on the plain meaning, as well as a contextual and purposive analysis, the court went on to find stand by utility as constituting use). *SUNG*, *supra* note 16, at 21 (“(s)eemingly few, if any, unauthorized activities involving a patented invention would not violate § 271(a) under the broad definition of an infringing use given the narrow, and arguably waning, view of experimental or *de minimis* use as a common law infringement defense”).

⁹⁷ *NTP Inc.*, 418 F.3d at 1317.

⁹⁸ *HARMON*, *supra* note 91, at 392-93.

⁹⁹ UNCTAD-ICTSD, RESOURCE BOOK ON TRIPS AND DEVELOPMENT 419 (2005).

¹⁰⁰ TRIPS, *supra* note 83, art. 30. Patent Act, §. 55.6 (1985) (Can.).

¹⁰¹ *Madey v. Duke*, 307 F.3d 1351, 1362 (Fed. Cir. 2002) (“...so long as the act is in furtherance of the alleged infringer’s legitimate business and is not solely for amusement, to satisfy idle curiosity, or for strictly philosophical inquiry, the act does not qualify for the very narrow and strictly limited experimental use defense. Moreover, the profit or non-profit status of the user is not determinative”).

¹⁰² CANADIAN OXFORD DICTIONARY, *supra* note 93, at 1315.

¹⁰³ *SUNG*, *supra* note 16, at 23.

manufacture to ultimate consumer, may involve many points of sale.¹⁰⁴ It is the place where a transfer occurs which should guide territoriality for commercial market purposes. As soon as an exchange of a patented product takes place within a jurisdiction where the relevant patent is filed, the patent law of that jurisdiction is engaged.. A Canadian case provides a good illustration of this principle. In *Domco Industries Ltd. v. Mannington Mills Inc.*, the court found against an infringing sale in respect of products that fell under a Canadian patent but where the transfer occurred in the US .¹⁰⁵ The market right engaged in that instance was in the US, where the sale took place. Had those products been subsequently shipped back to Canada, Canadian patent law could be activated in connection with a right of import.

Offering to sell includes “acts aimed at commercialization of a product, even where the latter has not yet occurred.”¹⁰⁶ This added ground of infringement to U.S. law (reflecting the adoption of this ground in the TRIPS Agreement) includes offers made short of an actual sale, e.g. “generating interest in a potential infringing product to the commercial detriment of the rightful patentee.”¹⁰⁷ Again, the place where the offer is made should determine the territorial application of patent law. If, for example, an offer to sell a patented product is posted on the internet in the US, then that would interfere with the commercial rights of the U.S. patent holder, regardless of where the target audience is located. Of course, if a sale is consummated in this scenario, then the patent law of the recipient state (where the product is actually transferred to) should apply.

(ii) Importing & Rules of Exhaustion

TRIPS absolutely protects the territorial rights of products made directly from a patented process, as reflected in current interpretations of §271(g). The threshold for

¹⁰⁴ *VAVER*, *supra* note 92, at 152 (“Suppose a manufacturer, without the right-holder’s consent, sells a patented product to a distributor, who sells it to retailer, who in turn sells it to a consumer, who uses the product: each seller infringes ,as does the consumer by using the product, whether or not the parties know they are infringing”).

¹⁰⁵ *Domco Industries Ltd. v. Mannington Mills Inc.* 23 C.P.R. (3d) 96 ¶. 8 (F.C.T.D 1988) *aff’d* 29 C.P.R.(3d) 481 (F.C.A.).

¹⁰⁶ UNCTAD-ICTSD, *supra* note 99, at 420.

¹⁰⁷ *3D Systems, Inc. v. Aarotech Lab Inc.* 160 F.3d 1373, 1379 (Fed. Cir. 1998).

determining when a product – that may be the result of many processes only one of which may include the patent under consideration – is *directly* made from a process is a matter of national determination. Due to the neutral stance of TRIPS on the issue of exhaustion rules, however, the treaty is less protective of the right of import as it relates to patented products.¹⁰⁸ States may adopt various kinds of exhaustion rules, again within their national discretion undertaken in good faith. In this section, we discuss a territorial market rights approach to determining rules of national exhaustion.

TRIPS allows Members to set rules of national or international exhaustion as they see fit.¹⁰⁹ Exhaustion ‘defines the territorial rights of intellectual property owners after the first sale of their protected products.’¹¹⁰ A rule of national exhaustion permits a patent holder of one country to prevent the parallel importation from the owner or authorized dealer of the same patented product of another country;¹¹¹ in other words, national exhaustion preserves a patent holder’s right of commercial exploitation in the territorial market, free from import competition. Under a rule of international exhaustion, parallel imports of the product are allowed upon first sale of the product regardless of where it occurs.¹¹² As soon as the product is placed on the market somewhere in the world, in other words, these may be imported into the domestic market, perhaps at a cheaper price.

¹⁰⁸ TRIPS, *supra* note 83, art.6.

¹⁰⁹ *Id.* WTO Ministerial Conference, *Declaration on the TRIPS Agreement and Public Health*, WT/MIN(01)/DEC/2 (Nov. 14, 2001) [hereinafter The Doha Public Health Declaration] at paragraph 5(d): “the effect of provisions in the TRIPS Agreement that are relevant to the exhaustion of intellectual property rights is to leave each Member free to establish its own regime for such exhaustion without challenge, subject to the MFN [most favoured nation] and national treatment provisions of Article 3 and 4.”

¹¹⁰ Carsten Fink, *Entering the Jungle of Intellectual Property Rights Exhaustion and Parallel Importation*, in *INTELLECTUAL PROPERTY AND DEVELOPMENT: LESSONS FROM RECENT ECONOMIC RESEARCH* 171, 171 (Carsten Fink & Keith E. Maskus eds., 2005).

¹¹¹ *Id.* at 175-76 (a doctrine of national exhaustion (favoured by most developing countries) acts as a non-tariff barrier and thus is contrary to free and open trade based on comparative advantage). *Id.* at 179-80, 184 (Fink offers four advantages to national exhaustion doctrine: first, it prevents free riding of marketing and goodwill established by the local patent owner; second, it protects consumers from deception as to the origin of the goods; third, it encourages licensing in export markets knowing that the licensee will not compete in the home or third-country markets; and fourth, it does not necessitate the uniform pricing of products and thus developing countries may reap the advantages of lowered differential pricing).

¹¹² *Id.* at 172 (notwithstanding the fact that an importing country has adopted an international exhaustion regime licensing contracting can achieve the same ends of limiting sales in export markets).

Exhaustion rules can be complex. There are many rights (some overlapping) associated with a patent grant, which begs the question— what is the effect of a sale of a patented product on the purchaser’s right to re-sell or use the product? Surely, for example, a patentee can not restrict my use of a product that I have duly purchased. There are two main approaches to the problem. Kohler conceived of the first sale of a product as an inherent transfer of all rights associated with that good. His approach was premised on the view that patent law entitled the patentee to a reward of her invention but that the rights granted were “intrinsically linked” with one another.¹¹³ Thus, the patentee is entitled to one reward for each product and once sold, she is not longer entitled to residual patent rights in the specific product.¹¹⁴ Anglo-American law has dealt with this issue through the doctrine of implied license, meaning that the law will imply the transfer of rights of use and re-sale but leaves the possibility of the patentee to withhold rights by contract.¹¹⁵ In essence, the difference between the two is that Kohler views the transfer as absolute while the Anglo-American approach offers the ability of patentee to contract restrictive terms.

U.S. patent law has adopted a national exhaustion rule as well as the doctrine of implied license when a patented item is first sold. The CAFC in *Jazz Photo Corp. v. International Trade Commission* applied these principles to an infringement action involving the refurbishment of single use camera, some of which were first sold in the U.S. and some of which were first sold abroad.¹¹⁶ The court’s holding on national exhaustion is unmistakable: “United States patent rights are not exhausted by products of foreign provenance. To invoke protection of the first sale doctrine, the authorized first sale must have occurred under the United States patent.”¹¹⁷ But what of the cameras that were first sold in the US, exported, and then re-imported into the US? Here, the court

¹¹³ Christopher Heath, *Legal Concepts of Exhaustion and Parallel Imports*, in *PARALLEL IMPORTS IN ASIA* 13, 14-15 (Christopher Heath ed., 2004).

¹¹⁴ *Id.*

¹¹⁵ HARMON, *supra* note 91, at 411 (as a rule, the purchaser of a patented product is entitled to use, sell, and repair the product under an implied license. However, a sale made under licensing conditions not to re-sell will not exhaust the rights in that product. Implied licenses may arise by operation of law based on the conduct and mutual expectations of the parties, though the burden is on party asserting the defense.)

HARMON, *supra* note 91, at 411 ff, referring to acquiescence, equitable estoppel, or legal estoppel.

¹¹⁶ *Jazz Photo Corp. v. International Trade Commission*, 264 F.3d 1094 (Fed. Cir. 2001).

¹¹⁷ *Jazz Photo*, 264 F.3d.

seems to extend the implied license doctrine to not just use, repair and re-sale but also the right of re-import (as opposed to import in the first instance): “The unrestricted sale of a patented article, by or with the authority of patentee, ‘exhausts’ the patentee’s right to control further sale and use of that article by enforcing the patent under which it was first sold.”¹¹⁸ The underlying question, continued the Court, was whether the patentee had received reward for the use of the article.¹¹⁹

Under U.S. law, parallel imports are prohibited as violating a patent holder’s rights, but not if the imports have first been sold in the U.S., i.e. they are re-imported. As pertains to parallel imports, however, should it make a difference that the patent owners are the same in both the importing and exporting jurisdictions?¹²⁰ Presumptively, the answer should be in the negative since implicit in territorial rights is the possibility of price discrimination to allow for elasticities of demand within segregated markets.¹²¹ In other words, the same patent owner may sell her patented product in Guatemala at a price much lower than in the U.S. and thus the market rights of the latter would be undermined by a rule of exhaustion that permitted importation – even where the patent owners are the same.¹²²

A territorial market rights approach makes controversies over the ambit of national exhaustion rules less problematic. The underlying rationale, as adopted in the US, is whether the patentee has received her reward *in that market* pursuant to the sale of the goods. If so, then the ancillary rights associated with the patent are exhausted in respect of the product, subject to express contractual limitations imposed by the patentee. To allow parallel imports would compromise territorial market rights by undermining the

¹¹⁸ *Jazz Photo*, 264 F.3d at 1105.

¹¹⁹ *Id.*

¹²⁰ VAVER, *supra* note 92, at 153 who states that, in Canada, if the owner of a imported patented product is the same in both Canada and the country of export, then Canadian law will not prevent importation.

¹²¹ Price discrimination allows a firm to ‘charge more in those markets where consumer demand is inelastic, and charge less in those markets where demand is elastic (relatively more responsive to changes in price). Peter J. Hammer, *Differential Pricing of Essential AIDS Drugs: Markets, Politics and Public Health*, 5 J. INT’L ECON. L. 883, 885 (2002).

¹²² ROGER E. SCHECHTER & JOHN R. THOMAS, *INTELLECTUAL PROPERTY: THE LAW OF COPYRIGHTS, PATENTS, AND TRADEMARKS* 470 (2003) (there is some authority for the rule that where an overseas sale by a U.S. patent holder is restricted, then exhaustion may not occur in the U.S. market).

higher prices set for the goods in the importing country. These propositions are entirely consistent with the TRIPS Agreement.

(b) Application to Transnational Telecommunications Patent Disputes

The territorial market rights principle provides guidance in resolving jurisdictional controversies that have been discussed in this paper. Analyzing each ground of infringement and co-relating these to the facts in *NTP v. RIM*, we will demonstrate the manner in which the territorial market rights principle would work to determine prescriptive jurisdiction. We will also apply the principle to the controversial area of the internet and legislative jurisdictional reach.

The facts in *NTP v RIM* engage the grounds of *making*, *using* and *selling* though in different prescriptive jurisdictions. In that case, the *situs* of the infringing component was located in Canada, i.e. the relay which infringed NTP's U.S. patent, and Canadian patent law was engaged to the extent that the relay was *made* there. In other words, if NTP wished to protect their invention in Canada on this ground, they would have needed to seek a patent grant in that country. At the same time however, *use* and *sale* both occurred in the US. The end use of the patent – i.e. where the patent was utilized – occurred in the United States where the BlackBerry was put into operation. Similarly, the infringing technology was sold in the U.S. and thus infringed the market rights of the U.S. patent holder. Exploitation of the U.S. market, in other words, meant that RIM should have negotiated a license prior to using and selling its products in that market.

While no case has yet to surface addressing this issue, we should expect that difficult jurisdictional questions will arise in connection with patented inventions that may be infringed from points abroad through the internet. The most likely candidate here is patented software that may be used for such things as electronic commerce.¹²³ Suppose,

¹²³ I leave aside the technical argument that software is a process: see Dan L. Burk, *Patents in Cyberspace: Territoriality and Infringement on Global Computer Networks*, 68 TUL. L. REV. 1, 28 (1993) [hereinafter Burk, *Patents*]. As a process, however, all elements of the process would need to occur in the United States, according to the

for example, a U.S. patent holder of software that teaches a method of online commerce (e.g. one-click shopping) finds that a French e-commerce enterprise is using her patent while conducting business with U.S. customers. Should U.S. patent law on use apply to this kind of activity? In accordance with the territorial market rights principle, *use* as infringement occurs if the patent holder's rights in a market are directly or indirectly engaged by an activity. It follows that if the French company is conducting business with U.S. customers using the infringing software, then U.S. law should apply. In other words, the market rights of the U.S. patent holder are activated by conducting commerce with U.S. customers.

Infringement through the internet can often be unintentional even in respect of sophisticated users, leading some to argue for the mitigation of a strict liability rule in respect of intellectual property infringement.¹²⁴ For example, there has been much discussion as to whether, and under what circumstances, internet postings or transactions that potentially infringe trademark should subject an infringer to personal jurisdiction in the receiving state. Tests developed in these cases have distinguished between “active” and “passive” websites,¹²⁵ or some version of an “effects-based” approach.¹²⁶ Others have commented that a foreseeability test might be most appropriate balance between the

reasoning by the CAFC in *NTP v. RIM*.

¹²⁴ Burk, *Patents*, *supra* note 123, at 40 (“The simple act of logging onto the network may initiate the running of infringing software at some remote site; sending or receiving messages or accessing a remote computer may initiate more infringing activity of which the computer operator may be unaware. Even if the operator is aware, or suspects, that his network use has initiated infringing software activity, it may not be within his control to halt or bypass the activity—packet routing and other network functions may proceed automatically through avenues not of his choice”).

¹²⁵ *Zippo Mfg. Co. v. Zippo Dot Com Inc.* 952 F. Supp. 1119, (W.D. Pa 1997). See also Carolyn Kelly MacWilliam, *Individual and Corporate Liability for Libel and Slander in Electronic Communications, Including E-mail, Internet and Websites*, 3 A.L.R.6th 153 (2005); Michael E. Allen, *Analyzing Minimum Contacts Through The Internet: Should The World Wide Web Mean World Wide Jurisdiction?*, 31 IND. L. REV. 385 (1998).

¹²⁶ *Nissan Motor Co. Ltd. v. Nissan Computer Corp.*, 89 F. Supp. 2d 1154 (C.D. Cal. 2000). Lowe, *supra* note 67, at 344 (The ‘effects’ doctrine—applied in U.S. anti-trust law, for example – holds that the intentional creation of economic effects within a state is a sufficient basis for jurisdiction, notwithstanding that no physical act leading to the impacts occurs therein). ROBERT JENNINGS, COLLECTED WRITINGS OF SIR ROBERT JENNINGS 188-89 (1998) (the effects doctrine takes hold only where the consequence is a “constituent element” of the offence, and not mere effects without more.). Ralf Michaels, *Territorial Jurisdiction after Territoriality*, in GLOBALISATION AND JURISDICTION 104, 123 (Pet Jan Slot & Mielle Bulterman eds., 2004) (but this doctrine is unwieldy insofar as in “a globalized economy, everything has an effect on everything” and thus courts must engage in a “fuzzy” exercise of distinguishing between lesser and greater effects).

harshness of an effects based rule and the uncertainty of the active/passive distinction.¹²⁷ While we may speculate that unintentional software patent infringement occurs, the paucity of actual cases does not justify deviation from the ordinary rule of strict liability for patent infringement at least in respect of legislative jurisdiction. In the meantime, rules relating to personal and enforcement jurisdiction¹²⁸ should limit the harshness of this rule, i.e. strict liability under the Act does not mean that a court will assert personal jurisdiction over a defendant or, if it did, its judgment would be enforced against the defendant. Furthermore, it is not clear that infringement over the internet is any more innocent an activity than that of the purchaser of BlackBerry whose use of that product unwittingly infringes a local patent.

3. Exporting & the Justifying Aims of TRIPS

TRIPS does not provide for a right of export since this could violate regimes of national exhaustion, which prevent imported parallel goods. A right of export, in other words, could conflict with a corresponding right of import in the destination market. The treaty does not specifically address the right of states to restrict the export of components for a patented invention, as per §271(f), though the purpose and underlying rationale of TRIPS seems to be at odds with this provision. While TRIPS seeks to encourage innovation through the global protection of IP rights, a secondary purpose of the treaty is to encourage technology transfer and dissemination through international trade.¹²⁹ The hindrance of trade and its spillover effects on technology transfer abroad (particularly in developing countries where offshore assembly usually occurs), occasioned by a provision like §271(f) seems to undermine one of the central purposes of TRIPS as an international trade treaty. In this section, we elaborate on the purpose and underlying rationale of

¹²⁷ MICHAEL GEIST, *INTERNET LAW IN CANADA* 67–70 (3d ed. 2002).

¹²⁸ Jack L. Goldsmith, *Against Cyberanarchy*, 65 U. CHI. L. REV. 1199, 1216 ff (1998) (noting that courts usually require “something more” than mere posting of information on the web to engage personal jurisdiction and even if that happens, defendants would need a presence (either personal or assets) in a jurisdiction for judgment to be enforced against them. The author does not, however, address the possibility of having judgments enforced against the defendant in another jurisdiction).

¹²⁹ TRIPS, *supra* note 83, art. 7.

TRIPS to show that §271(f) should be repealed or at the very least read in harmony with TRIPS when one of the parties is foreign.

The international trade regime-of which TRIPS is a part-is premised on the theory of comparative advantage, which instructs that countries should specialize in the production of goods for which it has a natural or productive advantage, leading to decreased prices for consumers, increased trade for all countries to mutual gain of all and the maximization of global wealth.¹³⁰ Intellectual property protection – which is a restriction on the free trade of goods envisaged under comparative advantage – is justified on the basis that innovation is a factor of production (i.e. a comparative advantage) that needs to be encouraged and protected through exclusive rights on a global scale.¹³¹ Even so, TRIPS seeks to encourage the dissemination of technological trade beyond that which is needed to encourage innovation. This dual purpose is reflected in Article 7:

The protection and enforcement of intellectual property rights should contribute to the *promotion of technological innovation and to the transfer and dissemination of technology*, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations [emphasis added].¹³²

Thus, innovation is promoted in TRIPS through the right to exclude, preventing free riders from copying technologies and thus protecting a patent holder's ability to recoup their investment and make a profit.¹³³ However, a secondary rationale of TRIPS is the promotion of “the transfer and dissemination of technology.”

¹³⁰ For more on comparative advantage, see MICHAEL J. TREBILCOCK & ROBERT HOWSE, THE REGULATION OF INTERNATIONAL TRADE 3-4 (3d ed. 2005).

¹³¹ Economists view innovation as crucial to economic well-being in terms of productivity growth, i.e. the growth rate of output per labor hour. For a summary of leading economic views on the critical importance of innovation to economic growth see F.M. SCHERER, PERSPECTIVES ON ECONOMIC GROWTH AND TECHNOLOGICAL INNOVATION 25-48 (Brookings Institution Press 1999).

¹³² The Doha Public Health Declaration, *supra* note 109 (reaffirms that ‘each provision of the TRIPS Agreement shall be read in light of the object and purpose of the Agreement as expressed in its object and principles’)

¹³³ See *infra* note 88.

The goals of innovation promotion and technological dissemination are conceived as mutually supportive under the TRIPS Agreement. Patent rights are preserved under a file per country regime, thus encouraging trade to foreign markets without fear of infringement.¹³⁴ Particularly for developing countries that have weak innovation industries, the regime is justified by dynamic gains that will be harnessed through strong patent rights protection. Specifically, these dynamic gains comprise technological dissemination into developing countries through the investment and trade gains that result from strong patent protection, thus eventually resulting in stronger indigenous innovation industries. In other words, innovators will be more willing to invest in¹³⁵ and more willing to trade with¹³⁶ countries that institute strong patent regimes, as mandated by TRIPS, thus contributing to the development of their innovation capacities.

However, one sees in provisions like §271(f) the very opposite of this intended effect since developing countries are deprived of the ability to foster their innovation capacities through the access to technology and know-how that accompany the

¹³⁴ According to this line of thought, rigorous patent protection facilitates trade in goods and foreign investment by assuring technology exporters of remedies for infringement when imitators illegally copy or reverse engineer patented technologies. Nicolas S. Gikkas, *International Licensing of Intellectual Property: The Promise and the Peril*, 1 J. TECH. L. & POL'Y 6, ¶ 49 (1996) (the willingness of firms to trade in intellectual property rights may be affected by effectiveness of the legal security afforded to the protection of their rights). Bernard M. Hoekman et. al., *Transfer of Technology to Developing Countries: Unilateral and Multilateral Policy Options*, 3332 WORLD BANK POL'Y RES. WORKING PAPER SERIES 15, (2004) (According to one study, however, increased IP protection facilitates trade flows of patented goods into middle-income and large developing countries (where there is an imitation threat) whereas trade flows to poor countries 'are not responsive to patent rights')

¹³⁵ Carlos A. Primo Braga et al., *Intellectual Property Rights and Economic Development*, in THE WTO, PROPERTY RIGHTS AND THE KNOWLEDGE ECONOMY 245, 270-71 (Keith Maskus ed., 2004) (there is evidence that strong IPR protection is not a determinative consideration for investment decisions by transnational corporations and thus relatively few developing countries have benefited from it, i.e. those that benefit have favorable investment conditions and IPR protection) See also Arvind Panagariaya, *TRIPS and the WTO: An Uneasy Marriage*, in THE WTO, PROPERTY RIGHTS AND THE KNOWLEDGE ECONOMY, *id.*, at 46 (the success of FDI in China, in the absence of strong patent protection, may support this view. See also DUNCAN MATTHEWS, GLOBALIZING INTELLECTUAL PROPERTY RIGHTS: THE TRIPS AGREEMENT 112 (2002) (countries that appeared on USTR watch list for worst violators of IP were ones to receive some of the most significant inflows of FDI including Argentina, Brazil and PR China).

¹³⁶ Keith E. Maskus & Jerome Reichman, *The Globalization of Private Knowledge Goods and the Privatization of Global Public Goods*, in INTERNATIONAL PUBLIC GOODS AND TRANSFER OF TECHNOLOGY 3, 11 (Keith Maskus & Jerome Reichman eds., 2005). Guifang Yang & Keith E. Maskus, *Intellectual Property Rights and Licensing: An Econometric Investigation*, in INTELLECTUAL PROPERTY AND DEVELOPMENT: LESSONS FROM RECENT ECONOMIC RESEARCH, *supra* note 10, at 112-13 (refers to one study which indicated that U.S. multinational enterprises 'were less likely to transfer advanced technologies to unaffiliated firms in countries with weak patent laws.' Furthermore, the degree of patent protection may influence whether a firm licenses the technology (strong patent laws) or invests directly (weak patent laws).

importation of unpatented component parts. Furthermore, preventing the export of component parts, which are not intellectual property for which TRIPS seeks to protect as an exception to free trade rules, constitutes a non-tariff barrier and *prima facie* appears at odds with TRIPS specifically and the international trade regime more generally.¹³⁷ Nor is there evidence which suggests that jurisdictional overreaching by the U.S. has resulted in gains to overall innovative activity.

TRIPS does not in any way support expanding patent holder rights to non-patentable components that are exported for the production of patented goods in foreign jurisdictions. First, this frustrates the intention behind international trade law to encourage free trade through non-tariff barriers. Second, the incentive to innovate is not increased through jurisdictional overreaching of strong patent systems –in fact, such an extension of rights appears more as rent-seeking behavior. Third, it prevents trade which would contribute to technological transfer and dissemination in the sense of increasing access to technologies and technical know how in developing countries. Thus, § 271(f) constitutes jurisdictional overreaching by the U.S. Congress, under the terms and purpose of the TRIPS Agreement, and should be repealed. As it now stands, the Supreme Court has done well to interpret this section extremely narrowly and to emphasize the territorial scope of U.S. patent law.

At the very least, § 271(f) must be enforced in harmony with U.S. obligations under TRIPS. This is by no means a radical proposal. The venerable Chief Justice announced over 200 years ago in *Charming Betsy*, a fundamental principle of statutory interpretation in the presence of international treaties:

It has also been observed that an act of congress ought never to be construed to violate the law of nations, if any other possible construction remains, and consequently can never be construed to violate neutral rights, or to affect neutral commerce, further than is warranted by the law of nations as understood in this country.

¹³⁷ Note also that a comparative advantage theory frowns on quantitative restrictions or non tariff barriers to trade: *see e.g.* General Agreement on Tariffs and Trade:Article XI (last modified 1994), *available at* http://www.wto.org/english/docs_e/legal_e/legal_e.htm#gatt47.

These principles are believed to be correct, and they ought to be kept in view in construing the act now under consideration.¹³⁸

The *Charming Betsy* doctrine has been applied to many area of law such as “maritime law, employment discrimination law, and refugee law It requires courts to construe statutes so as to avoid violating not only customary international law, but also ... treaties to which the United States is a party.”¹³⁹ We are not aware of any case that has applied the *Charming Betsy* to a patent case or which required interpreting TRIPS; nonetheless, with the growing internationalization of trade utilizing patented products, it is inevitable that courts will have to confront the conflict between § 271(f) and TRIPS. To this, we suggest that a reading that narrows the scope and reach of § 271(f) is also good law.

We also suggest that such a reading is good policy for foreigners and Americans alike. Americans enjoyed, and to a diminished extent still enjoy, the benefits of competitive federalism. Prior to the New Deal, much of the legislative power resided in the states. States could experiment with various policies, and Americans had the option of locating in those states where the local policies were aligned with their political preferences.¹⁴⁰

¹³⁸ *Murray v. The Chamring Betsy*, 6 U.S 64 (1804). (2 Cranch).

¹³⁹ Alex O. Canizares, *Is Charming Betsy Losing Her Charm? Interpreting U.S. Statutes Consistently with International Trade Agreements and the Chevron Doctrine*, 20 EMORY INT’L L. REV. 591, 601 (2006). For more on the doctrine, see also Roger P. Alford, *Foreign Relations as a Matter of Interpretation: The Use and Abuse of Charming Betsy*, 67 OHIO ST. L.J. 1339 (2006); Filicia Davenport, *The Uruguay Round Agreements Act Supremacy Clause: Congressional Preclusion of the Charming Betsy Standard with Respect to WTO Agreements*, 15 FED. CIRCUIT B.J. 279 (2005).

¹⁴⁰ On competitive federalism, see D. Bruce Johnsen & Moin A. Yahya, *The Evolution of Sherman Act Case Law: A Roadmap for Competitive Federalism*, 7 U. PA. J. CONST. L. 403 (2004) (citing Charles M. Tiebout, *A Pure theory of Local Expenditures*, 60 J. POL. ECON. 416 (1956); James M. Buchanan & Charles J. Goetz, *Efficiency Limits of Fiscal Mobility: An Assessment of the Tiebout Model*, 1 J. PUB. ECON. 25 (1972); William L. Cary, *Federalism and Corporate Law: Reflections Upon Delaware*, 83 YALE L.J. 663 (1974); Ralph K. Winter, *State Law, Shareholder Protections, and the Theory of the Corporation*, 6 J. LEG. STUD. 251 (1977); Carol M. Rose, *Planning and Dealing: Piecemeal Land Controls as a Problem of Local Legitimacy*, 71 CAL. L. REV. 837 (1983); Frank Easterbrook, *Antitrust and the Economics of Federalism*, 26 J. OF LAW AND ECON. 23 (1983); Roberta Romano, *Law as a Product: Some Pieces of the Incorporation Puzzle*, 1 J.L. ECON & ORG. 225 (1985); Roberta Romano, *The State Competition Debate in Corporate Law*, 8 CARDOZO L. REV. 709 (1987); Wallace E. Oates & Robert M. Schwab, *Economic Competition Among Jurisdictions: Efficiency Enhancing or Distortion Inducing?* 35 J. PUB. ECON. 333 (1988); THOMAS R. DYE, AMERICAN FEDERALISM: COMPETITION AMONG GOVERNMENTS (1990); DAPHNE A. KENYON & JOHN KINCAID, COMPETITION AMONG STATES AND LOCAL GOVERNMENTS: EFFICIENCY AND EQUITY IN AMERICAN FEDERALISM (1991); Barry R. Weingast, *The Economic Role of Political Institutions: Market-Preserving Federalism and Economic Development*, 11 J.L. ECON. & ORG. 1 (1995); Roberta Romano,

Since the New Deal, however, the erosion of states' rights has meant that the federal government occupies more and more of the spheres of power that once belonged exclusively to the states.¹⁴¹ But at least American corporations could locate their activities in other countries to take advantage of competitive environments abroad. This ensured that at least American corporations (and hence American consumers who could enjoy cheaper prices and American shareholders who could enjoy healthier profits) were not completely disadvantaged by the uniformity of laws inside the U.S.

If American patent law applies to activities abroad as well, these advantages for American corporations are diminished. It is no accident that the *AT&T* case involved two American companies, one of whom was engaged in manufacturing abroad. A reading of § 271(f) that is in harmony with TRIPS would allow American and foreign companies to locate in those countries whose legal regimes suit their competitive needs, but in a way that would ensure some minimum standard. This ensures that there is a minimal level playing field without imposing uniformity across nations. In the long run, American and foreign consumers and corporations will benefit.¹⁴²

Conclusion

The territorial nexus between infringing activity involving a foreign element and the application of national patent law has proven elusive in the domestic law context.

State Competition for Corporate Charters, in *THE NEW FEDERALISM: CAN STATES BE TRUSTED?* 129 (John Freetown & Barry R. Weingast eds., 1997).

¹⁴¹ *Id.*

¹⁴² The theory of comparative advantage in trade economics suggest that optimal trade takes place between those countries where the relative costs of production are at the greatest variation. Hence, a country that is rich in labor but poor in capital will maximize its trading opportunities with a country that is rich in capital but poor in labor. STEVEN HUSTED & MICHAEL MELVIN, *INTERNATIONAL ECONOMICS* 68 (1990) (describing the basic theory of comparative advantage); Daniel Trefler, *The Case of Missing Trade and Other Mysteries*, 85 *AM. ECON. REV.* 1029 (1995) (providing empirical support of the proposition that international technological differences can explain much of observed trade patterns). American companies can take advantage of these comparative advantages by locating across the globe in different countries. Legal regimes, undoubtedly, are a factor of production and should affect the trade opportunities between such countries.

Heretofore, territoriality has been connected to elements in an infringement action that defy coherence. This paper has proposed the following principle of territorial market rights to guide national courts in determining whether to apply national patent law to transnational patent disputes concerning telecommunications: “States should apply their patent law to infringement cases involving a foreign element to the extent that market rights pursuant to a patent grant have been commercially exploited, either directly or indirectly, within that state.” It has been argued that this principle is fair and predictable for the parties involved, accords most with international patent law, and protects what is most valuable to the patent system (and its holders).