

THE WIPO JOURNAL:

ANALYSIS OF INTELLECTUAL PROPERTY ISSUES

GENERAL EDITOR: PROFESSOR PETER K. YU

CONTENTS

2014 VOLUME 6 ISSUE 1

Special Issue on Intellectual Property and Geography

Intellectual Property Geographies
Peter K. Yu

Notes on a Geography of Global Intellectual Property
Margaret Chon

Mapping the New Geographies of Intellectual Property Rights in the 21st
Century
Doris Estelle Long

Patents, Innovation and Economic Geography
Francesco Lissoni and Ernest Miguélez

Geographical Indications: What Do They Indicate?
Michael Blakeney

In Territorio Veritas: Bringing Geographical Coherence in the Definition of
Geographical Indications of Origin under TRIPs
Irene Calboli

The Protection of Geographical Indications in the Inter-American
Convention
Christine Haight Farley

Intellectual Property Law and Geospatial Information: Some Challenges
Teresa Scassa and D.R. Fraser Taylor, FRSC

The Territoriality Referendum
Marketa Trimble

Law and the Geography of Cyberspace
Anupam Chander

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Table of Contents

Articles

Intellectual Property Geographies <i>Peter Yu</i>	1
Notes on a Geography of Global Intellectual Property <i>Margaret Chon</i>	16
Mapping the New Geographies of Intellectual Property Rights in the 21st Century <i>Doris Estelle Long</i>	26
Patents, Innovation and Economic Geography <i>Francesco Lissoni and Ernest Miguélez</i>	37
Geographical Indications: What Do They Indicate? <i>Michael Blakeney</i>	50
<i>In Territorio Veritas</i> : Bringing Geographical Coherence into the Definition of Geographical Indications of Origin under TRIPs <i>Irene Calboli</i>	57
The Protection of Geographical Indications in the Inter-American Convention <i>Christine Haight Farley</i>	68
Intellectual Property Law and Geospatial Information: Some Challenges <i>Teresa Scassa and D.R. Fraser Taylor, FRSC</i>	79
The Territoriality Referendum <i>Marketa Trimble</i>	89
Law and the Geography of Cyberspace <i>Anupam Chander</i>	99

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Intellectual Property Geographies

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☞ Developing countries; Digital technology; Geographic areas; Indigenous peoples; Intellectual property; Territory; TRIPs

Introduction

Although geography—and the need to establish new and distant markets—has influenced the development of international intellectual property law and policy from the very beginning,¹ the linkage between intellectual property and geography has not received much attention from policy makers and academic commentators. Nevertheless, geographically related issues abound in today's intellectual property field. These issues include the protection of geographical indications, traditional knowledge and traditional cultural expressions; the discussions on intellectual property and climate change; the development of high-technology innovation clusters; the negotiation of regional trade agreements; the challenges posed by cloud-based platforms and transnational distribution; the use of geolocation tools and the mining of data involved in Global Positioning System (GPS) navigation.

There are also many promising developments in the field of geography that suggest an appropriate time to bring spatial analysis and geographical insights into the intellectual property field. For example, the best-selling works of Jared Diamond, most notably his Pulitzer Prize-winning *Guns, Germs, and Steel*, have received considerable attention among the popular audience.² Another *New York Times* bestseller, Robert Kaplan's *The Revenge of Geography*, uses maps (literally) and geopolitical insights to shed light on the global conflicts lying ahead of us.³ In addition, Nobel Laureate Paul Krugman has pioneered research on what he coined “new economic geography,” which brings together geography and international trade.⁴ For more than a decade, Nicholas Blomley, David Delaney and their colleagues have worked tirelessly to develop the field of critical legal geography.⁵ One can also find additional scholarly literature exploring issues at the intersection of law and geography.⁶

* Copyright © 2014 Peter K. Yu. This article draws on research from the author's earlier works in the *Cardozo Arts and Entertainment Law Journal*, the *Michigan State Law Review*, the *Temple Law Review*, and a book chapter forthcoming from Edward Elgar Publishing. An earlier version of the article was presented at the “Intellectual Property and Geography” Panel at the 16th Annual Meeting of the Association for the Study of Law, Culture and the Humanities at Birkbeck, University of London. The author is grateful to the participants of this event for their valuable comments and suggestions.

¹ Paul Edward Geller, “Copyright History and the Future: What's Culture Got to Do with It?” (2000) 47 J. Copyright Soc'y U.S.A. 209, 229.

² Jared M. Diamond, *Guns, Germs, and Steel: The Fates of Human Societies* (New York: W.W. Norton, 1998).

³ Robert D. Kaplan, *The Revenge of Geography: What the Map Tells Us about Coming Conflicts and the Battle against Fate* (New York: Random House, 2012).

⁴ Paul Krugman, “Where in the World Is the ‘New Economic Geography’?” in Gordon L. Clark, Maryann P. Feldman and Meric S. Gertler (eds), *The Oxford Handbook of Economic Geography* (Oxford: Oxford University Press, 2000).

⁵ e.g. Nicholas K. Blomley, *Law, Space, and the Geographies of Power* (New York: Guilford Press, 1994); Nicholas K. Blomley, David Delaney and Richard T. Ford, *The Legal Geographies Reader: Law, Power, and Space* (Oxford: Blackwell Publishers, 2001); Irus Braverman, Nicholas K. Blomley, David Delaney and Alexandre Kedar (eds), *The Expanding Spaces of Law: A Timely Legal Geography* (Stanford: Stanford University Press, 2014); David Delaney, *Race, Place, and the Law, 1836–1948* (Austin: University of Texas Press, 1998); David Delaney, *The Spatial, the Legal and the Pragmatics of World-Making: Nomospheric Investigations* (New York: Routledge, 2010).

⁶ e.g. Lauren A. Benton, *A Search for Sovereignty: Law and Geography in European Empires, 1400–1900* (Cambridge: Cambridge University Press, 2010); Jane Holder and Carolyn Harrison (eds), *Law and Geography* (Oxford: Oxford University Press, 2003); William M. Taylor (ed.), *The Geography of Law: Landscape, Identity and Regulation* (Oxford: Hart Publishing, 2006); Franz von Benda-Beckmann, Keebet von Benda-Beckmann and Anne M.O. Griffiths (eds), *Spatializing Law: An Anthropological Geography of Law in Society* (Burlington: Ashgate, 2009).

Even in the intellectual property field, discussions on intellectual property and geography have slowly emerged. For instance, in September 2010, the International Society for the History and Theory of Intellectual Property (ISHTIP) titled its second workshop “Geographies of Intellectual Property”. In March 2013, the Annual Meeting of the Association for the Study of Law, Culture and the Humanities included a panel on “Intellectual Property and Geography”. In addition, intellectual property literature is filled with occasional works linking intellectual property to geography, including the pioneering works of the late Keith Aoki and Rosemary Coombe.⁷ Since the mid-1990s, a growing volume of works on geography and cyberlaw has also surfaced.⁸

If one goes back further to the origin of the international intellectual property system, one cannot help but notice the geographical scope of the Paris Convention for the Protection of Industrial Property and the Berne Convention for the Protection of Literary and Artistic Works. Because these two cornerstone treaties were established by European colonial powers, with limited participation from other less powerful countries or then dependent territories, the regime was largely Euro-centric.

Even more importantly, those parts of the world that did not have a voice at the early stages of this regime are usually rich in biological diversity and traditional culture. As a result, the current debate on genetic resources, traditional knowledge and traditional cultural expressions has not only been coloured by problems created by colonisation and an inequitable international intellectual property regime, but also the inevitable relationship between intellectual property and geography. Similar connections can be found in the debate on intellectual property and climate change, which highlights the developing countries’ struggle with hurricanes, typhoons, tsunamis, severe droughts, desertification and forest decay.

Since its inception, *The WIPO Journal* has devoted the first issue of each volume to a major discipline. The goal of this unique approach is to emphasise the inter- and multi-disciplinary nature of the study of intellectual property. Together, these special issues have demonstrated that intellectual property is not just about law and policy, but also has ramifications for many other disciplines. Thus far, we have explored intellectual property’s connections to law and policy, economics, politics, culture and history. This issue will continue this approach by exploring the linkage between intellectual property and geography.

As an introduction to this special issue, this article will outline three sets of mismatches that demonstrate the vitality, utility and richness of analysing intellectual property developments through a geographical lens. The article begins by examining economic geography, focusing on the tensions and conflicts between territorial borders and sub-national innovation. It then examines the oft-found mismatch between political geography and cultural geography. Illustrating this mismatch is the challenge of protecting traditional knowledge and traditional cultural expressions. This article concludes by exploring the growing mismatch between legal geography and human geography. It discusses issues ranging from the region codes deployed to protect DVDs to the increasing consumer demand for cross-border portability of media content.

Economic geography: Territorial borders and sub-national innovation

The first set of mismatches concerns economic geography. It explores the tension between territorial borders based on the nation-state concept and innovation and industrial production at the sub-national level. As I noted in recent articles, one of the major challenges concerning large developing countries is the rapidly growing gap between economically and technologically developed regions and their less developed counterparts.⁹ While it is nothing new to have highly uneven development in developing

⁷ e.g. Keith Aoki, “(Intellectual) Property and Sovereignty: Notes toward a Cultural Geography of Authorship” (1996) 48 Stan. L. Rev. 1293; Rosemary J. Coombe, “Authorial Cartographies: Mapping Proprietary Borders in a Less-than-Brave New World” (1996) 48 Stan. L. Rev. 1357.

⁸ e.g. Julie E. Cohen, “Cyberspace as / and Space” (2007) 107 Colum. L. Rev. 210; David R. Johnson and David G. Post, “Law and Borders—The Rise of Law in Cyberspace” (1996) 48 Stan. L. Rev. 1367; Lawrence Lessig, “Zones of Cyberspace” (1996) 48 Stan. L. Rev. 1403.

⁹ Peter K. Yu, “Intellectual Property and Asian Values” (2012) 16 Marq. Intell. Prop. L. Rev. 329, 395–396; Peter K. Yu, “The Middle Intellectual Property Powers” in Randall Peerenboom and Tom Ginsburg (eds), *Law and Development in Middle-Income Countries: Avoiding the Middle-Income Trap* (Cambridge: Cambridge University Press, 2014), pp.98–99.

countries, such uneven development could pose a serious challenge to the existing intellectual property system—both domestic and international alike.

Since the adoption of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) in the World Trade Organization (WTO) in 1994, international intellectual property literature has been filled with critiques of the “one size fits all”—or, more precisely, “super size fits all”—approach to intellectual property norm-setting. Yet these critiques tend to end at national borders, with the trust and expectation that sovereign governments will ultimately strike the appropriate balance for their own countries. Few, if any, articles or book chapters have problematised the “one size fits all” approach to intellectual property norm-setting within an individual country.

Nevertheless, when one adjusts the scale of the map to zoom in on the economic and technological developments in large developing countries, one cannot help but notice the alarming unevenness of these developments. Take China for an example. The economic and technological developments in its major cities and coastal regions far exceed those in the inner and rural areas.¹⁰ Based on the 2013 figures on invention patents provided by the State Intellectual Property Office in China, Jiangsu, Guangdong and Shandong provinces—the three provinces with the largest volumes of applications—had a total of 141,259, 68,990 and 67,642, respectively.¹¹ Meanwhile, Yunnan, Jiangxi and Gansu provinces had a total of only 3,961, 3,931 and 3,735, respectively. The latter figures were about one-twentieth of the figure in Guangdong or Shandong province and one-fortieth of the figure in Jiangsu province. If one includes Xinjiang, Inner Mongolia, Ningxia, Hainan, Qinghai and Tibet provinces in the latter group, the contrast between the statistics in the two groups becomes even more disturbing.

From the standpoint of intellectual property development, having highly uneven sub-national development could create major challenges for policy makers, especially in relation to the establishment of a national intellectual property strategy, which the State Council launched in June 2008. If the leaders seek to tailor protection to the divergent economic and technological conditions in different regions, they likely will have to come up with a “schizophrenic” nationwide intellectual property policy.¹² Under such a policy, protection will be tighter in the fast-growing and technologically proficient regions, but much weaker in their less developed counterparts.

By contrast, if the leaders do not seek to tailor protection to these divergent conditions, and instead accept uniform countrywide standards, they will have to develop a system that is either too strong or too weak for some regions. Or worse, they will have to adopt a system that is unsuitable for all regions—for example, when the system grants only mid-level protection that would be too low for the fast-growing regions but too high for the less developed regions.

To be certain, such a strategy could still generate net economic gains for the country, especially when the strategy is carefully designed and implemented. Nevertheless, these gains will not be fairly distributed unless a well-functioning transfer mechanism already exists to allow the anticipated winners to share the new benefits with the potential losers. As Frederick Abbott reminded us in relation to cross-sectoral bargains made in bilateral and regional trade agreements:

“The problem with ... using net economic gains or losses as the developing country benchmark is that gains for a developing country’s textile or agricultural producers do not directly translate into higher public or private health expenditures. Salaries for part of the workforce may increase and government tax revenues may rise, and this may indirectly help offset pharmaceutical price increases. However, in order for the health sector not to be adversely affected, there must be some form of transfer payment, whether in the form of increased public health expenditures on pharmaceuticals,

¹⁰ Peter K. Yu, “Intellectual Property, Economic Development, and the China Puzzle” in Daniel J. Gervais (ed.), *Intellectual Property, Trade and Development: Strategies to Optimize Economic Development in a TRIPS Plus Era* (Oxford: Oxford University Press, 2007), p.203.

¹¹ State Intellectual Property Office, “Table 2 Distribution of Applications for Inventions Received from Home 2013”, available at http://english.sipo.gov.cn/statistics/2013/12/201402/t20140217_905142.html [Accessed December 3, 2014].

¹² Peter K. Yu, “International Enclosure, the Regime Complex, and Intellectual Property Schizophrenia” [2007] Mich. St. L. Rev. 1, 25–26.

by providing health insurance benefits, or other affirmative acts. In a world of economic scarcity, the prospect that governments will act to offset increases in medicines prices with increased public health expenditures is uncertain.”¹³

Although Professor Abbott’s insight focuses on the gains made across different economic sectors, the same argument could be made in relation to the gains secured across different geographical regions. Indeed, unless the central government is willing to step in to transfer benefits from the anticipated winners to the potential losers, those regions that have unsuitable levels of intellectual property protection are likely to remain losers in the system. As time goes by, the gap between the developed and less developed regions can only expand.

Disturbingly, uneven sub-national development is not limited to China; it can be found in many similarly situated countries, which range from India to Indonesia and from Bangladesh to Brazil. As Fareed Zakaria reminded us,

“India might have several Silicon Valleys, but it also has three Nigerias within it—that is, more than 300 million people living on less than a dollar a day. It is home to 40 percent of the world’s poor and has the world’s second-largest HIV-positive population.”¹⁴

Nobel Laureate Michael Spence also wrote about the “dual economy” in Brazil, which consists of

“a relatively rich one whose growth is constrained by the normal forces that constrain the growth of relatively advanced economies, and a poor one where the early-stage growth dynamics ... just didn’t start, owing to its separation from the modern domestic economy and the global economy”.¹⁵

Even in the developed world, uneven economic and technological developments at the sub-national level are quite common. As Annalisa Primi reminded us in an essay published in the report on the 2013 Global Innovation Index:

“In the USA and in Germany, the top R&D investing regions—California and Baden-Württemberg—account, respectively, for 21% and 25% of total country investments in R&D. In Finland and the Republic of Korea, the top regions—Etelä-Suomi and the Korean Capital Region—account for 55% and 63% of total R&D expenditures.”¹⁶

At the global level, “[t]he top 20 patenting regions account for more than 50% of total world patent applications”.¹⁷ Nine of these regions are in the United States, four in Japan, three in Germany, one each in France and the Netherlands, and, of course, none in the developing world. According to Primi:

“The geography of innovation is not flat. Certain places, weather regions, cities, or local clusters tend to agglomerate specific competences, including scientific and technical knowledge as well as entrepreneurial capabilities and finance; these stand out as the world’s top innovation hotspots.”¹⁸

Her observations dovetail with the growing volume of research on the development of high-technology innovation clusters,¹⁹ which range from the pioneering research of Alfred Marshall²⁰ to the widely cited

¹³ Frederick M. Abbott, “The Cycle of Action and Reaction: Developments and Trends in Intellectual Property and Health” in Pedro Roffé, Geoff Tansey and David Vivas-Eugui (eds), *Negotiating Health: Intellectual Property and Access to Medicines* (London: Earthscan, 2006), p.33.

¹⁴ Fareed Zakaria, *The Post-American World* (New York: W.W. Norton, 2008), p.133.

¹⁵ Michael Spence, *The Next Convergence: The Future of Economic Growth in a Multispeed World* (New York: Farrar, Straus and Giroux, 2011), p.204.

¹⁶ Annalisa Primi, “The Evolving Geography of Innovation: A Territorial Perspective” in *The Global Innovation Index 2013: The Local Dynamics of Innovation* (Geneva: World Intellectual Property Organization, 2013), p.70.

¹⁷ Primi, “The Evolving Geography of Innovation” in *The Global Innovation Index 2013* (2013), p.70.

¹⁸ Primi, “The Evolving Geography of Innovation” in *The Global Innovation Index 2013* (2013), p.70.

¹⁹ e.g. Charlie Karlsson (ed.), *Handbook of Research on Innovation and Clusters: Cases and Policies* (Cheltenham: Edward Elgar Publishing, 2008).

²⁰ Alfred Marshall, *Principles of Economics: An Introductory Volume* (New York: Macmillan, 1948).

research of Michael Porter.²¹ Although discussions of innovation clusters in the United States tend to focus on Silicon Valley and Route 128,²² clusters can be found in many other different sectors, such as carpet producers around Dalton, Georgia, jewellery producers around Providence, Rhode Island, financial services in New York, the old shoe industry in Massachusetts and the rubber industry in Akron, Ohio.²³

Indeed, as Professor Krugman concisely noted in the early 1990s, “economic regions do not respect state boundaries”.²⁴ As he continued:

“Only a few years ago it was common for economic analyses of increasing returns and trade to assume that external economies applied at the level of a nation and to assert as their main result that big countries tend to export goods characterized by economies of scale. The result may still be true—but it will be true because national policies make it so, not because there is anything of inherent economic importance in drawing a line on the ground and calling the land on either side two different countries.

All of which leads us to the real reason why national boundaries matter and to the proper notion of a nation for our analysis. Nations matter—they exist in a modeling sense—because they have governments, whose policies affect the movements of goods and factors. In particular, national boundaries often act as barriers to trade and factor mobility. Every modern nation has restrictions on labor mobility. Many nations place restrictions on the movement of capital, or at least threaten to do so. And actual or potential limits on trade are pervasive, in spite of the best efforts of trade negotiators.”²⁵

Thus, even though critiques of the “one size fits all” approach to intellectual property norm-setting tends to stop at national borders, due in large part to the general respect for national sovereignty, it is important to develop a deeper appreciation of the mismatch between state-based territorial borders and economic and technological developments at the sub-national level. Such appreciation would lead us to rethink our design of both the domestic and international intellectual property systems. It would also compel us to question whether countries should have the same level of protection throughout, especially when some regions are clearly more economically and technologically developed than the others.

At first glance, a proposal calling for the development of differentiated intellectual property standards at the sub-national level is likely to raise concerns about potential inconsistencies with the TRIPS Agreement. As much as policy makers and academic commentators have noted how globalisation, trade liberalisation and regional agreements have weakened the nation-state concept, that concept still remains the foundation of the WTO system. Except for the three customs territories—namely, Chinese Taipei, Hong Kong and Macao—all the other 150-plus WTO members are nation-states.

Furthermore, article 27.1 of the TRIPS Agreement states that

“patents shall be available and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced”.

Although most of the discussions on this provision have focused on either discrimination based on the field of technology or the distinction between product and process patents, this provision includes an express prohibition against discrimination based on “the place of invention”.

Upon reflection, however, the analysis is likely to be less straightforward, especially when the region-based differentiated arrangements respect national treatment—that is, when they do not discriminate against foreign patent holders. Indeed, one could offer three arguably strong arguments to support greater

²¹ Michael E. Porter, *The Competitive Advantage of Nations* (New York: Free Press, 1990); Michael E. Porter, *On Competition* (Boston: Harvard Business School Publishing, 1998).

²² AnnaLee Saxenian, *Regional Advantage: Culture and Competition in Silicon Valley and Route 128* (Cambridge, MA: Harvard University Press, 1994).

²³ Paul R. Krugman, *Geography and Trade* (Cambridge, MA: MIT Press, 1991), p.53.

²⁴ Krugman, *Geography and Trade* (1991), p.57.

²⁵ Krugman, *Geography and Trade* (1991), pp.71–72.

tailoring of intellectual property standards to the divergent economic and technological conditions at the sub-national level.

First, if the proposed arrangements offer the same protection to all inventions within the region, regardless of “the place of invention, the field of technology and whether products are imported or locally produced”, they should not present any art.27.1 problem. Moreover, the WTO panel made clear in *Canada—Patent Protection of Pharmaceutical Products* that “differentiation” does not always amount to “discrimination”. As the panel observed:

“The primary TRIPS provisions that deal with discrimination, such as the national treatment and most-favoured-nation provisions of Articles 3 and 4, do not use the term ‘discrimination’. They speak in more precise terms. The ordinary meaning of the word ‘discriminate’ is potentially broader than these more specific definitions. It certainly extends beyond the concept of differential treatment. It is a normative term, pejorative in connotation, referring to results of the unjustified imposition of differentially disadvantageous treatment.”²⁶

During the panel process concerning this dispute, the United States made a third party intervention stating that “differential treatment did not necessarily mean discriminatory treatment because different technologies might require different treatment to restore ‘parity of enjoyment’”.²⁷ Cited as support for its position is the technology-specific Bolar exception, which already existed during the TRIPS negotiations and applied to only pharmaceuticals and, later, medical devices. Similarly, Australia, another third party intervener, “stated that differential treatment did not necessarily amount to discrimination, and ... cited patent term extension as a means of ‘restoring the balance of interests’”.²⁸

Secondly, although countries tend to have national standards on the books, many seem to have in place varying levels of protection throughout the country. In the United States, for example, courts in different appellate circuits continue to disagree over the protection of intellectual property rights. A case in point is the protection offered by national trademark and unfair competition laws. Although the standards may be the same on paper—that is, based on the Federal Lanham Act—they differ at times in reality, not to mention the different levels of protection offered by state unfair competition laws.

Finally, there is a growing trend for developing countries to establish “free trade zones”, “customs free zones” or “export processing free zones”. These free zones tend to offer “relaxed regulations, limited taxes[,] ... reduced oversight ... [and] softened Customs control”—features that are different from those in other parts of the country.²⁹ Although intellectual property industries remain concerned about the problem of piracy and counterfeiting brought about by these free zones and sought to push for higher standards in the Anti-Counterfeiting Trade Agreement, the existence of these free zones within the WTO framework does suggest that WTO rules may allow for differentiation in limited circumstances.

This article does not allow me to fully explore these three arguments, which admittedly are tentative by nature. Yet the discussion here invites us to think more deeply about the possibility of designing the intellectual property system in a way that better responds to the uneven economic and technological developments within a country. More importantly, because this type of uneven development is found more often in large developing countries than in their developed counterparts, it is very likely that new innovative solutions will come from the former, rather than the latter.³⁰ Having solutions emerging from these countries is both exciting and refreshing. After all, the transplant of intellectual property standards tends to go from developed to developing countries.

²⁶ “Canada—Patent Protection of Pharmaceutical Products”, Report of the Panel, March 17, 2000, WT/DS114/R, para.7.94.

²⁷ “Canada—Patent Protection of Pharmaceutical Products”, Report of the Panel, 2000, para.4.36.

²⁸ “Canada—Patent Protection of Pharmaceutical Products”, Report of the Panel, 2000, para.4.36.

²⁹ Business Action to Stop Counterfeiting and Piracy, *Controlling the Zone: Balancing Facilitation and Control to Combat Illicit Trade in the World's Free Trade Zones* (Paris, 2013), p.1.

³⁰ Yu, “Intellectual Property and Asian Values” (2012) 16 Marq. Intell. Prop. L. Rev. 329, 396.

Political and cultural geography

The second set of mismatches occurs between political geography and cultural geography. An instructive example concerns the challenge of protecting traditional knowledge and traditional cultural expressions developed by indigenous communities, a hot topic that has been explored for more than a decade and a half by the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC) of the World Intellectual Property Organization (WIPO). Established in September 2000, the IGC sought to explore

“the development of an international legal instrument or instruments for the effective protection of traditional cultural expressions and traditional knowledge, and to address the intellectual property aspects of access to and benefit-sharing in genetic resources”.³¹

In the area of traditional knowledge and traditional cultural expressions, one tricky question concerns who would be in the best position to decide what materials to protect and how they should be protected. Although this question was once hotly debated, today’s prevailing view—and, most definitely, the politically correct view—is that traditional communities should decide for themselves. As Erica-Irene Daes, the Special Rapporteur of the UN Sub-Commission on Prevention of Discrimination and Protection of Minorities and the chairperson of its Working Group on Indigenous Populations, explained:

“Indigenous peoples have always had their own laws and procedures for protecting their heritage and for determining when and with whom their heritage can be shared. The rules can be complex and they vary greatly among different indigenous peoples. To describe these rules thoroughly would be an almost impossible task; in any case, each indigenous people must remain free to interpret its own system of laws, as it understands them.”³²

Likewise, Angela Riley observed,

“for a tribe, determining the destiny of collective property, particularly that which is sacred and intended solely for use and practice within the collective, is a crucial element of self-determination”.³³

Rebecca Tsosie also found indigenous self-determination “best served through an intercultural framework that acknowledges the autonomy rights of native peoples”.³⁴

It is indeed no surprise that art.3 of the United Nations Declaration on the Rights of Indigenous Peoples declares: “Indigenous peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development”. Article 11(1) further provides:

“Indigenous peoples have the right to practise and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artefacts, designs, ceremonies, technologies and visual and performing arts and literature.”

In addition, art.31(1) states:

³¹ WIPO, “Traditional Knowledge”, available at <http://www.wipo.int/tk/en/> [Accessed December 3, 2014].

³² Erica-Irene Daes, “Discrimination against Indigenous Peoples: Study on the Protection of the Cultural and Intellectual Property of Indigenous Peoples”, July 28, 1993, U.N. Doc. E/CN.4/Sub.2/1993/28, para.27.

³³ Angela R. Riley, “Recovering Collectivity: Group Rights to Intellectual Property in Indigenous Communities” (2000) 18 Cardozo Arts & Ent. L.J. 175, 204–205.

³⁴ Rebecca Tsosie, “International Trade in Indigenous Cultural Heritage: An Argument for Indigenous Governance of Cultural Property” in Christoph Beat Graber, Karolina Kuprecht and Jessica C. Lai (eds), *International Trade in Indigenous Cultural Heritage: Legal and Policy Issues* (Cheltenham: Edward Elgar Publishing, 2012), p.236.

“Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions.”

Nevertheless, even if we assume that indigenous communities should decide for themselves what to protect and how to protect, difficult questions could arise when more than one indigenous community is involved in a dispute. To begin with, due to reasons ranging from past colonial efforts to civil wars to natural calamities, territorial borders do not always match cultural geography. The former colonies in Africa provide the most notorious examples. As Harm de Blij observed:

“To facilitate acquisition [of these colonies, European colonial powers] drew their boundaries point-to-point, often along parallels and meridians, and not just across deserts, as witness the United States–Canadian border west of the Great Lakes”.³⁵

Another oft-cited example in North America concerns the Iroquois (Haudenosaunee), whose members “live in two countries, the United States and Canada, due to an historical division of territory in which the Iroquois had no voice”.³⁶

Even when one ignores involuntary actions, voluntary actions could cause an indigenous community to split into two or more groups along geographical lines. For example, there could be “family feuds” within a community—such as when the youngsters disagreed with their elders.³⁷ (The reverse situation—where the elders disagreed with the youngsters—happens often and is generally not as important, because tribal law tends to grant decision-making power to the elders).³⁸ There could also be internal disagreement within a community, in which the majority prevails over the minority, or vice versa.

To complicate matters, there could be more than one indigenous community within a geographical region. There is a tendency for us to focus on the binary between indigenous and non-indigenous communities, assuming that the former speak with a singular voice. However, this is far from the truth. As Professor Riley reminded us:

“Although many indigenous creations follow the pattern of oral, inter-generational works, this is not the only model. Many tribes may, in fact, recognize property interests that are considered to be more reflective of a ‘Western’ view than an ‘indigenous one.’ The ways in which indigenous peoples characterize and define property are as varied as the peoples themselves, and Westerners must resist the urge to narrow and define the ‘indigenous perspective.’”³⁹

In addition,

“a source community may include dissenting voices, and a grant of legal protection to those who speak on behalf of the community may silence those voices—always an issue when rights are vested in a group rather than an individual”.⁴⁰

³⁵ Harm de Blij, *Why Geography Matters: Three Challenges Facing America: Climate Change, the Rise of China, and Global Terrorism* (New York: Oxford University Press, 2005), p.108.

³⁶ Doris Estelle Long, “Branding the Land: Creating Global Meanings for Local Characteristics” in Irene Calboli and Edward Lee (eds), *Trademark Protection and Territoriality Challenges in a Global Economy* (Cheltenham: Edward Elgar Publications, 2014), p.107.

³⁷ Ronald Sackville, “Legal Protection of Indigenous Culture in Australia” (2003) 11 *Cardozo J. Int’l & Comp. L.* 711, 739–740.

³⁸ Chidi Oguamanam, *International Law and Indigenous Knowledge: Intellectual Property, Plant Biodiversity, and Traditional Medicine* (Toronto: University of Toronto Press, 2006), p.128.

³⁹ Angela R. Riley, “Indigenous Peoples and the Promise of Globalization: An Essay on Rights and Responsibilities” (2004) 14 *Kan. J.L. & Pub. Pol’y* 155, 161.

⁴⁰ Susan Scafidi, *Who Owns Culture?: Appropriation and Authenticity in American Law* (New Brunswick: Rutgers University Press, 2005), p.xii.

Because traditional knowledge and traditional cultural expressions often involve intangible materials, “more than one community [could have made] similar use of the same resources, sometimes even using the same processes”.⁴¹ There have indeed been disputes among indigenous communities over lineage and heritage. For instance, conflict arose in 1999

“when the National Park Service concluded that Navajos have a legitimate ‘cultural affiliation’ with the Anasazi culture of Chaco Canyon National Monument in northwestern New Mexico”.⁴²

As Michael Brown explained:

“The Anasazi—a name now rejected by Pueblo tribes in favor of ‘Ancestral Puebloans’—constructed magnificent cliff dwellings and multi-storied stone structures that draw thousands of tourists to Chaco Canyon, Mesa Verde, and other national parks in the Southwest. Ancestral Puebloans are said to have vanished in the thirteenth century A.D., but the preponderance of scientific evidence, which in this case generally agrees with Pueblo oral history, supports the view that the cliff dwellers scattered throughout the region to found the communities today identified as Pueblo. Contemporary Pueblo people react to the assertion that Navajos have a ‘cultural affiliation’ with the Anasazi about the same way the Irish would respond to an English claim of affiliation with pre-sixteenth-century cultural remains in Ireland.”⁴³

There have also been disputes over the origin of practices and beliefs as well as to whom the sacred places belong. The Hopis, for example, have “publicly complained about non-Hopi (especially Navajo) artists creating what is otherwise traditionally Hopi art as well as such commercial ventures as a liquor company decanter in the form of a kachina and a comic book featuring kachina characters”.⁴⁴ As an employee of the Hopi Cultural Preservation Office complained:

“[T]he Navajos are taking Hopi qualities, saying that they came into the fourth world and that they have four sacred colors for the directions. But those ideas came from us. Now they are involved in eagle gathering, which is a Hopi practice. We Hopis don’t talk first in public gatherings anymore. Now we’re afraid that if we say something, the Navajos will say that it’s theirs too.”⁴⁵

As if these situations were not complicated enough, the indigenous communities involved could be making competing claims over something that was actually created by or derived from a third community, which has yet to be identified, no longer exists or chooses to stay neutral.⁴⁶ To take one recent example, regarding the ownership of a sacred bundle held by the American Museum of Natural History,

“Montana, Saskatchewan, and Manitoba Crees are all independently claiming ownership as is the adopted great-great-grandson of Plains Cree Chief Big Bear. Determining who owned the bundle after Big Bear’s death, and thus whether the transfer was legitimate, will not be an easy task.”⁴⁷

Given these many complications, the challenge of figuring out who could decide on the treatment of traditional knowledge and traditional cultural expressions in a geographical region can be quite daunting. Determining whether we should defer to the choices of indigenous communities is only the beginning of

⁴¹ Naomi Roht-Arriaza, “Of Seeds and Shamans: The Appropriation of the Scientific and Technical Knowledge of Indigenous and Local Communities” (1996) 17 Mich. J. Int’l L. 919, 957.

⁴² Michael F. Brown, *Who Owns Native Culture?* (Cambridge, MA: Harvard University Press, 2003), p.20.

⁴³ Brown, *Who Owns Native Culture?* (2003), p.20.

⁴⁴ James D. Nason, “Native American Intellectual Property Rights: Issues in the Control of Esoteric Knowledge” in Bruce Ziff and Pratima V. Rao (eds), *Borrowed Power: Essays on Cultural Appropriation* (New Brunswick: Rutgers University Press, 1997), p.248.

⁴⁵ Brown, *Who Owns Native Culture?* (2003), p.19.

⁴⁶ Marion P. Forsyth, “International Cultural Property Trusts: One Response to Burden of Proof Challenges in Stolen Antiquities Litigation” (2007) 8 Chi. J. Int’l L. 197, 198.

⁴⁷ Sarah Harding, “Justifying Repatriation of Native American Cultural Property” (1997) 72 Ind. L.J. 723, 724.

the inquiry, not the end. In a dispute involving two or more indigenous groups, invoking the right to self-determination is unlikely to result in a satisfactory resolution. As Richard Ford explained:

“[W]hy should area X be the relevant community, when area X plus Y might provide an equally or more valid definition of community? The answer cannot appeal to the right of community self-determination: if the people in area Y claim to be part of the larger community X plus Y, then should not their opinion be considered as well as that of the people in area X?”⁴⁸

Consider, for instance, the early example concerning the disagreement between two groups within an indigenous community. Although strong claims can be made to ensure that the group in the original geographic location determines for the community, it is hard to ignore the important countervailing interests of the departing group—either because they do not have the numbers to prevail in a majority contest or because they have chosen to leave. To some extent, this departing group—either as prior users or continuing innovators—deserves some form of protection (such as “the continuation of bona fide prior use”).⁴⁹

Moreover, regardless of its size, if this departing group continues to maintain a traditional lifestyle, the use of traditional materials is likely to remain important to its members. In addition, the heritage of the community (before the split) will always remain part of the departing group’s cultural heritage. Just because the group is no longer part of the community does not mean that the group members should also give up their heritage.

To help address complications created by the disputes between different indigenous communities and to offer greater protection to these communities, commentators have advanced a number of proposals. Although this section does not allow me to discuss in detail all of these proposals, it will focus on four proposals that are both somewhat distinctive and relevant to our geographically related discussion.

The first proposal concerns the use of trusts, which are particularly useful in situations involving unidentified or not-completely-identified owners. To some extent, the situations resemble the challenge of identifying cultural artefacts in the case of *Peru v Johnson*, in which a US court rejected Peru’s claims based on the fact that the contested artefacts could also be found in Bolivia or Ecuador.⁵⁰ To remedy these problems, commentators have proposed the establishment of “international cultural property trusts” to enable countries to share responsibility for and benefits of their shared cultural heritage.⁵¹ As appealing as it may be, this proposal only works when countries agree to work with each other or when they agree to be subjected to the jurisdiction of a neutral party (such as a foreign court or an arbitration panel). There are also the inevitable questions concerning fairness in allocation of proceeds, operating costs and management issues.

The second proposal concerns the use of existing legal concepts, such as concurrent ownership, joint authorship and derivative works. To be certain, these concepts have already been well received within the intellectual property community. They could therefore provide good and well-tested solutions to the existing problem. Nonetheless, as Silke von Lewinski reminded us in regard to the concept of co-authorship,

“because of the lack of individual authorship in expressions of folklore, applying the concept of co-authorship does not remedy the situation, because co-authors are still individual authors who have decided to create a work together and according to a common plan”.⁵²

⁴⁸ Richard T. Ford, “The Boundaries of Race: Political Geography in Legal Analysis” in Blomley, Delaney and Ford, *The Legal Geographies Reader* (2001), p.95.

⁴⁹ Antony Taubman, “Saving the Village: Conserving Jurisprudential Diversity in the International Protection of Traditional Knowledge” in Keith E. Maskus and Jerome H. Reichman (eds), *International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime* (Cambridge: Cambridge University Press, 2005), p.545.

⁵⁰ 720 F. Supp. 810 (CD Cal 1989).

⁵¹ Forsyth, “International Cultural Property Trusts” (2007) 8 Chi. J. Int’l L. 197, 202.

⁵² Silke von Lewinski, “The Protection of Folklore” (2003) 11 Cardozo J. Int’l & Comp. L. 747, 758.

Moreover, the use of these legal concepts could raise complications when such ownership goes beyond state lines. Although conflict of law principles could come into play, divergences exist among laws concerning concurrent ownership, joint authorship and derivative works in different countries. The solution can also be quite complicated if the original community has yet to be identified, no longer exists or chooses to stay out of the dispute.

The third proposal concerns the use of geographical indications.⁵³ This solution is increasingly popular and well supported by both the TRIPS Agreement and the Lisbon Agreement for the Protection of Appellations of Origin and Their International Registration. Nevertheless, there remains an ongoing debate concerning whether the protection of geographical indications in the TRIPS Agreement should be extended beyond the protection of wines and spirits to cover all other products, such as Basmati rice, Darjeeling tea and products involving traditional knowledge and traditional cultural expressions.⁵⁴ There are also concerns that these indicators may be of limited market value. As a result, indigenous communities may need to conduct “advertising activities to promote the favourable features of [geographical indications] products ... to improve their market share and profitability”.⁵⁵

In addition, location-based indicators could create perverse incentives for non-indigenous communities to drive out their indigenous counterparts. Indeed, the more protection the immobile lands provide, the more motivation the former will have to fight for the control of these lands. This is what Doris Long has sometimes referred to as the “tyranny of the land”. Moreover, as Madhavi Sunder noted in her discussion of whether traditional Indian weavers from Mysore should be allowed to use the same geographical indication after moving to North India or the United Kingdom:

“There are good reasons to prevent the alienation of the [geographical indication] from the particular geographical community. It prevents the scenario in which a large foreign corporation hires a member of that community away and then begins to produce ‘authentic’ work elsewhere, using that [geographical indication]—and decimating the livelihoods of the traditional community left behind. At the same time, such a restriction could stifle opportunities for some individuals, as they remain within a traditional community by economic necessity, not choice. People move, intermarry, and change jobs. Culture flows with them.”⁵⁶

The final proposal concerns the use of certification or authenticity marks. Commentators have widely cited the benefits of indigenous marks, including the authenticity labelling system developed by the National Indigenous Arts Advocacy Association (NIAAA) in Australia and the “toi iho” mark used for Maori arts and crafts in New Zealand.⁵⁷ Peter Drahos noted the need to draw on the experience of the fair trade movement to help indigenous communities develop a system of certification that could be used for marketing products worldwide.⁵⁸ In addition, Margaret Chon called for greater consumer involvement and public oversight in standard-setting and certification processes.⁵⁹ Nevertheless, these proposals are not without problems. As Kathy Bowrey reminded us, the NIAAA authenticity labelling system

“falters for a number of reasons, including issues related to managing the diversity of ‘authentic’ expressions, the inappropriateness of a unitary national system for Indigenous Australia, problems

⁵³ Philippe Cullet, *Intellectual Property Protection and Sustainable Development* (New Delhi: LexisNexis Butterworths, 2005), pp.333–337; Teshager W. Dagne, *Intellectual Property and Traditional Knowledge in the Global Economy: Translating Geographical Indications for Development* (New York: Routledge, 2015); Daphne Zografos, *Intellectual Property and Traditional Cultural Expressions* (Cheltenham: Edward Elgar Publishing, 2010), pp.164–189.

⁵⁴ Dev Gangjee, *Relocating the Law of Geographical Indications* (Cambridge: Cambridge University Press, 2012), pp.266–288.

⁵⁵ Dagne, *Intellectual Property and Traditional Knowledge in the Global Economy* (2015), p.144.

⁵⁶ Madhavi Sunder, “The Invention of Traditional Knowledge” (Spring 2007) *Law & Contemp. Probs.* 97, 115.

⁵⁷ Zografos, *Intellectual Property and Traditional Cultural Expressions* (2010), pp.108–113; Maui Solomon, “Protecting Maori Heritage in New Zealand” in Barbara T. Hoffman (ed.), *Art and Cultural Heritage: Law, Policy and Practice* (Cambridge: Cambridge University Press, 2006), p.355.

⁵⁸ Peter Drahos, “A Networked Responsive Regulatory Approach to Protecting Traditional Knowledge” in Gervais (ed.), *Intellectual Property, Trade and Development* (2007), pp.402–404.

⁵⁹ Margaret Chon, “Marks of Rectitude” (2009) 77 *Fordham L. Rev.* 2311.

in defining and evidencing the requisite Aboriginality, associated questions about who could administer ‘quality control’ and management issues related to the NIAAA’.⁶⁰

In sum, the mismatch between political geography and cultural geography has generated many challenging questions. It is therefore no surprise that, after more than a decade and a half, the IGC still has not been able to develop formal instruments on genetic resources, traditional knowledge and traditional cultural expressions. Although leaders from developing countries and indigenous communities have often complained about the lack of political will on the part of developed countries to reach an international agreement, the standard-setting challenges in this rather controversial area should not be underestimated.

Legal and human geography

The final set of mismatches occurs between legal geography and human geography—specifically the geography of increasingly mobile human consumers from different parts of the world. Although territorially based, legal geography has now gone beyond territorial borders, thanks to the rise of transnational corporations and their active deployment of contracts and technological measures.

The example I have used repeatedly to illustrate the challenge of matching legal protection to political geography is DVD region codes.⁶¹ While these codes provide a textbook illustration of the use of geographical restrictions to protect copyrighted content, region-based restrictions can be found on many other consumer products—including those developed before the digital age (such as power plugs and sockets). Today, region codes have been widely used to protect not only movies and television shows, but also music, computer software, online games and, surprisingly, even printer toner cartridges.⁶² When keyed to local wireless providers, lockout codes have also been successfully deployed in cell phones to provide geographical restrictions, even though these codes technically do not have the same design and functionality as DVD region codes.⁶³

More recently, a growing number of YouTube accounts have imposed geographical restrictions to prevent viewers from having access to all content, thereby taking away YouTube’s earlier strength as a region-free platform for disseminating and viewing content. Apple’s iTunes Store

“has [also] established different pricing structures for different countries; their [digital rights management] protects against consumer arbitrage, and their servers ensure that anyone trying to log onto, say, the U.S. iTunes website from a U.K. computer will be automatically redirected to the British site”.⁶⁴

In addition, to meet user needs and to ensure data retention in a contracted-for location, providers of cloud computing services have begun to introduce the so-called regional cloud, or cloud services within a “regional zone”.⁶⁵ In short, geographical restrictions are now ubiquitous; they can be found in not only consumer goods but also cloud services.

The rationale for recreating territorial boundaries—or reterritorialising—through the use of technology is not hard to understand. The introduction of the internet and other new communications technologies has greatly eroded—or deterritorialised—the traditional territorial boundaries used to protect intellectual property rights. As the former Lord Justice of Appeal Sir Robin Jacob declared in the early 2000s, “as

⁶⁰ Kathy Bowrey, “*International Trade in Indigenous Cultural Heritage: An Australian Perspective*” in Graber, Kuprecht and Lai (eds), *International Trade in Indigenous Cultural Heritage* (2012), pp.423–424.

⁶¹ Peter K. Yu, “Region Codes and the Territorial Mess” (2012) 30 *Cardozo Arts & Ent. L.J.* 187.

⁶² Yu, “Region Codes and the Territorial Mess” (2012) 30 *Cardozo Arts & Ent. L.J.* 187, 257.

⁶³ Ryan L. Vinelli, “Bringing Down the Walls: How Technology Is Being Used to Thwart Parallel Importers amid the International Confusion Concerning Exhaustion of Rights” (2009) 17 *Cardozo J. Int’l & Comp. L.* 135, 139.

⁶⁴ Tarleton Gillespie, *Wired Shut: Copyright and the Shape of Digital Culture* (Cambridge, MA: MIT Press, 2007), p.267.

⁶⁵ Simon Bradshaw, Christopher Millard and Ian Walden, “Standard Contracts for Cloud Services” in Christopher J. Millard (ed.), *Cloud Computing Law* (Oxford: Oxford University Press, 2013), p.55; W. Kuan Hon and Christopher Millard, “How Do Restrictions on International Transfers of Personal Data Work in Clouds?” in Millard (ed.), *Cloud Computing Law* (2013), pp.274–275.

time goes on, ... the world will realize that at least for intellectual property the days of the nation-state are over".⁶⁶

To better understand how copyright holders have used technological measures to reintroduce legal control over media content, consider the protection provided by DVD region codes. Under the current technological set-up for traditional DVDs, as opposed to Blu-ray DVDs, the world is divided into six regions (plus additional regions for uses on cruise ships and airlines and for screener copies).⁶⁷ United States was designated Region 1, while the United Kingdom and Hong Kong were designated Region 2 and Region 3, respectively. Because of region codes, a DVD a US consumer purchased at the London Heathrow Airport (which is coded for Region 2) is unlikely to be viewable on her DVD player at home despite the individual's lawful purchase in England.

Thus far, industries and commentators have advanced four widely cited justifications to explain why geographical restrictions are introduced to protect copyrighted content. First, these codes enable entertainment products to arrive at different markets at different times, creating windows for sequential distribution. Such windows are needed for both economic and practical reasons. For example, foreign release may have to be delayed due to the travel schedules of directors, actors, writers and producers, the presence of whom is important for promotion.⁶⁸ Studios may also need time for "local/video duplication, dubbing and/or sub-titling, promotion, or dealing with censors".⁶⁹ In addition, a summer movie shown in the United States during the July 4th weekend may not perform as well in the box office if shown at the same time in Australia and New Zealand (which are in the middle of winter). Likewise, a blockbuster movie opening in Hollywood during Thanksgiving may perform much better if shown a month or two later in Hong Kong, during either Christmas or the Chinese New Year.

Secondly, region codes facilitate the practice of price discrimination,⁷⁰ which enables rights holders to maximise profits by "charg[ing] a high price to high valuation users and a low price to low valuation users".⁷¹ Such a practice not only allows these studios to recoup costs in the home market before exporting the product abroad,⁷² but also enables them to price the product according to the cost of living in foreign countries. For instance, region codes allow Mexican consumers to buy DVDs of Hollywood movies at local retail prices, not the higher US retail prices.

Thirdly, region codes facilitate distribution and licensing arrangements.⁷³ Although content providers could directly distribute products throughout the world, they often establish distribution and licensing agreements instead.⁷⁴ Such arrangements make sense for both practical and business reasons. By making the licensed product more attractive to local consumers, regional distributors and exclusive licensees could also add value to the original work.

Finally, region codes respond to the considerably diverse regulatory standards across the world.⁷⁵ For example, film ratings vary largely from country to country. While China has been a poster child for movie

⁶⁶ Hon Mr Justice [Robin] Jacob, "International Intellectual Property Litigation in the Next Millennium" (2000) 32 Case W. Reserve J. Int'l L. 507, 516.

⁶⁷ "DVD Region Code", available at http://en.wikipedia.org/wiki/DVD_region_code [Accessed December 3, 2014]; Robert Silva, "DVD Region Codes—What You Need to Know", available at <http://hometheater.about.com/cs/dvdlaserdisc/a/aaregioncodesa.htm> [Accessed December 3, 2014].

⁶⁸ Claude E. Barfield and Mark A. Groombridge, "The Economic Case for Copyright Owner Control over Parallel Imports" (1998) 1 J. World Intell. Prop. 903, 929; Brian Hu, "Closed Borders and Open Secrets: Regional Lockout, the Film Industry, and Code-Free DVD Players" (Spring 2006) *Mediascape* 4, available at http://www.tft.ucla.edu/mediascape/Spring06_ClosedBordersAndOpenSecrets.pdf [Accessed December 3, 2014]; Peter K. Yu, "Anticircumvention and Anti-anticircumvention" (2006) 84 Denv. U. L. Rev. 13, 75.

⁶⁹ Barfield and Groombridge, "The Economic Case for Copyright Owner Control over Parallel Imports" (1998) 1 J. World Intell. Prop. 903, 930.

⁷⁰ Rostam J. Neuwirth, "The Fragmentation of the Global Market: The Case of Digital Versatile Discs (DVDs)" (2009) 27 Cardozo Arts & Ent. L.J. 409, 422–423; Harold L. Vogel, *Entertainment Industry Economics: A Guide for Financial Analysis*, 8th edn (Cambridge: Cambridge University Press, 2011), pp.206–209.

⁷¹ Michael J. Meurer, "Price Discrimination, Personal Use and Piracy: Copyright Protection of Digital Works" (1997) 45 Buffalo L. Rev. 845, 850.

⁷² Neuwirth, "The Fragmentation of the Global Market" (2009) 27 Cardozo Arts & Ent. L.J. 409, 423.

⁷³ Jim Taylor, Mark R. Johnson and Charles G. Crawford, *DVD Demystified*, 3rd edn (New York: McGraw-Hill, 2006), p.5-19; Yu, "Region Codes and the Territorial Mess" (2012) 30 Cardozo Arts & Ent. L.J. 187, 209–213.

⁷⁴ Vogel, *Entertainment Industry Economics*, 8th edn (2011), p.127.

⁷⁵ Caitlin Fitzsimmons, "Restricting DVDs 'Illegal' Warns ACCC" *Australian IT*, March 27, 2001, p.33; Neuwirth, "The Fragmentation of the Global Market" (2009) 27 Cardozo Arts & Ent. L.J. 409, 426.

censorship,⁷⁶ thus leading the country to have its own region (Region 6), the film ratings in Europe and the United States can also vary quite significantly. A case in point is Stanley Kubrick's *Eyes Wide Shut*, whose orgy scene has been digitally altered to meet the US censorship ratings.⁷⁷

Moreover, region codes can be used to address piracy and counterfeiting problems in China and Southeast Asia, both hotbeds of movie piracy.⁷⁸ Having separate region codes—Region 6 for China and Region 3 for Southeast Asia—allows movie studios to respond to piracy problems—perhaps by deploying additional technological protection measures or introducing holograms or other hard-to-copy packaging features. Even if no additional measures or features are introduced, the use of separate region codes will ensure that the geographically restricted DVDs, if pirated, will not compete with DVDs sold in the primary markets in North America, Europe and Japan (which are in Regions 1 and 2).

Notwithstanding these justifications, questions arise once economic and human geography is taken into consideration. Consider, for example, the countries listed in Region 4. These countries include Argentina, Australia, Brazil and Haiti, the majority of whose inhabitants speak Spanish, English, Portuguese and French, respectively. Even if we ignore the linguistic differences, it is hard to imagine how grouping these highly divergent economies together would allow region codes to price discriminate effectively. Australia is a member of the Organisation for Economic Co-operation and Development. According to the 2013 World Bank indicators, its gross domestic product (GDP) amounted to over \$1.5 trillion. By contrast, Haiti, also in Region 4, had a GDP of only \$8 billion. Given the significant differences in economic power between these two countries, there is a very strong likelihood that those DVDs that Australian consumers find appealing are considered unaffordable by many in Haiti.

When one focuses on Region 5, the problems with DVD region codes become even more obvious. This region includes not only two BRICs countries (India and Russia), but also some members of the European Union as well as all countries in Africa (except Egypt and South Africa). This group makes no sense in terms of physical, economic or human geography. To put it bluntly, Region 5 seems to be the region about which Hollywood does not care much. To a large extent, it reflects the same problematic mentality many US entertainment lawyers have over the term “R.O.W.”—that is, “rest of the world”.

As if these problems were not bad enough, questions have been raised over whether geographical restrictions have become obsolete in an environment where a growing number of movies are released worldwide on the same day, due in large part to the concerns about digital piracy and in part to the fear that spoilers will become available on the internet. In an earlier article, I have also identified a number of problems raised by DVD region codes, which range from the inconvenience caused to frequent travellers and expatriate workers⁷⁹ to insensitive barriers posed to immigrant families and foreign students who seek to use DVDs to teach or learn foreign languages.⁸⁰

In recent years, international leaders, policy makers and academic commentators seem to have paid greater attention to the mismatch between legal geography and other types of geography. Leading the way was the European Commission's recently concluded “Licences for Europe” Stakeholder Dialogue, which considered the “cross-border portability of subscription services” a priority. As the European Union declared in a document entitled *A Digital Agenda for Europe*:

“Consumers expect, rightly, that they can access content online at least as effectively as in the offline world. Europe lacks a unified market in the content sector. For instance, to set-up a pan-European service an online music store would have to negotiate with numerous rights management societies

⁷⁶ Mary Lynne Calkins, “Censorship in Chinese Cinema” (1999) 21 Hastings Comm. & Ent. L.J. 239; Carl Erik Heiberg, “American Films in China: An Analysis of China's Intellectual Property Record and Reconsideration of Cultural Trade Exceptions amidst Rampant Piracy” (2006) 15 Minn. J. Int'l L. 219.

⁷⁷ Hu, “Closed Borders and Open Secrets” (Spring 2006) *Mediascape* 2; Neuwirth, “The Fragmentation of the Global Market” (2009) 27 Cardozo Arts & Ent. L.J. 409, 426–427.

⁷⁸ Fitzsimmons, “Restricting DVDs ‘Illegal’ Warns ACCC” *Australian IT*, 2001, p.33.

⁷⁹ Yu, “Region Codes and the Territorial Mess” (2012) 30 Cardozo Arts & Ent. L.J. 187, 217.

⁸⁰ Yu, “Region Codes and the Territorial Mess” (2012) 30 Cardozo Arts & Ent. L.J. 187, 227–228.

based in 27 [now 28] countries. Consumers can buy CDs in every shop but are often unable to buy music from online platforms across the EU because rights are licensed on a national basis. This contrasts with the relatively simple business environment and distribution channels in other regions, notably the US, and reflects other fragmented markets such as those in Asia”⁸¹

Since the 2013 General Assembly, WIPO Director General Francis Gurry has also noted the importance of creating “a seamless global digital marketplace”.⁸² As he recently explained in an interview with the *Intellectual Property Watch*:

“For as long as it is easier to get content illegally than it is to get it legally, there is an encouragement to piracy. We have to make the conditions to get it legally better than illegally and that is the global digital marketplace.

Let me give you another example: if one of the HBO series comes out in a new season in, for example, the US but is not available in the new season in certain other countries. What do people do? Do they wait patiently for three months? No, because they are addicted! So this is where I think our objective ought [to] be a seamless global legal digital marketplace and I think everyone has agreed on this.”⁸³

Although Dr Gurry did not believe the creation of this global digital marketplace should be “a legislative exercise”, he noted the need to establish “a multi-stakeholder dialogue” to facilitate such creation. It remains to be seen whether such a dialogue would help kick start international discussions in this area.

To a large extent, the need for the development of “a seamless global digital marketplace” highlights the growing mismatch between legal geography and human geography. Today, people are no longer just watching programs on television or listening to CDs. Instead, they write email, listen to music stored in the cloud, generate mash-ups of worldwide digital content and watch foreign shows recommended by distant friends. Any laws that fail to consider these activities and the related consumer expectations will quickly become obsolete.

Conclusion

Intellectual property and geography is not yet a common topic for analysis in intellectual property literature. Yet, the discussion of geographical indications, traditional knowledge, traditional cultural expressions, climate change, high-technology innovation clusters, regional trade agreements, cloud-based distribution platforms, geolocation tools and GPS navigation have raised important questions that would require a deeper and more thorough understanding of geography. Although it is too early to tell whether a theoretical or “methodological turn” towards greater geographical understanding and spatial analysis of intellectual property law and policy will eventually emerge,⁸⁴ it is my hope that the contributions in this special issue will help us develop a deeper appreciation of the connection between intellectual property and geography. It is also my hope that these contributions will provide unique insights and approaches that could be useful in the years to come. I hope you will enjoy this special issue.

⁸¹ “A Digital Agenda for Europe”, COM (2010) 245 final/2, 2010, p.7.

⁸² Francis Gurry, “Address by the Director General”, available at http://www.wipo.int/about-wipo/en/dgo/speeches/a_51_dg_speech.html [Accessed December 3, 2014].

⁸³ Catherine Saez, “WIPO Director Gurry Speaks on Naming New Cabinet, Future of WIPO” *Intellectual Property Watch*, May 8, 2014.

⁸⁴ Irus Braverman, “Who’s Afraid of Methodology: Advocating a Methodological Turn in Legal Geography” in Braverman, Blomley, Delaney and Kedar (eds), *The Expanding Spaces of Law* (2014).

Notes on a Geography of Global Intellectual Property

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☞ Critical legal studies; Developing countries; Geography; Globalisation; Intellectual property; Jurisdiction; Territorial application

Introduction

Presented here are three versions of global intellectual property—each framed by the critical geography approach of the late influential legal scholar Keith Aoki. In version one, critical geography is applied to global intellectual property, resulting in critiques of the development divide, the public-private divide and the territoriality divide. Ultimately, these separate critiques resolve into an over-arching critique of sovereign monopoly over intellectual property law and policy-making. Version two traces the continuing impact of this insight within current intellectual property debates. Version three posits a re-positioning of global intellectual property. This future geography of intellectual property consists of a matrix of multiple transnational dimensions, rather than the usual set of binary oppositions. These three versions of critical geography as applied to global intellectual property comprise a map of the past and the present as well as a peek into the future.

Version one: Intellectual property among the ruins

Beginning in the mid-1990s, Keith (to whom I will refer by his first name) pioneered the transplantation of insights generated by critical geography into law, specifically intellectual property law.¹ No doubt, part of the impetus for this scholarly project was his peripatetic intellect, which restlessly explored outside the disciplinary boundaries of law for helpful analytical tools. While critical geography was and is still not a dominant organising paradigm within intellectual property scholarship, it continues to offer some important additional conceptual means to address the ongoing significance of spatial relations within global intellectual property legal regimes. Keith exulted in cross-disciplinary and inter-disciplinary (perhaps even post-disciplinary) insights, all of which are key defining aspects of critical geography itself.² Harvard Law School mentors such as Gerald Frug and Duncan Kennedy as well as fellow critical legal scholars like John Calmore and Richard Thompson Ford³ probably encouraged him in this direction as well. Because Keith already possessed a progressive tilt to his politics, one could argue that the lure of critical geography

¹ This article draws largely from Keith Aoki's seminal piece, "(Intellectual) Property and Sovereignty: Notes toward a Cultural Geography of Authorship" (1996) 48 Stan. L. Rev. 1293. It also references three other works of his: Keith Aoki, "Considering Multiple and Overlapping Sovereignities: Liberalism, Libertarianism, National Sovereignty, 'Global' Intellectual Property, and the Internet" (1998) 5 Ind. J. Global Legal Stud. 443; Keith Aoki, "Space Invaders: Critical Geography, the 'Third World' in International Law and Critical Race Theory" (2000) 45 Vill. L. Rev. 913; and Keith Aoki, "Food Forethought: Intergenerational Equity and Global Food Supply—Past, Present, and Future" (2011) Wis. L. Rev. 399. As Hari Oshofsky has noted, many more of Keith's works contained references to geography. Hari Oshofsky, "The Geography of 'Moo Ha Ha'" (2012) 90 Or. L. Rev. 1233.

² Irus Braverman, Nicholas Blomley, David Delaney, Alexandre (Sandy) Kedar, *The Expanding Spaces of Law: A Timely Legal Geography* (Stanford: Stanford University Press, 2014), pp.2–12 (describing the three modes of critical geography as cross-disciplinary, interdisciplinary, and post-disciplinary).

³ Braverman, Blomley, Delaney and Kedar, *The Expanding Spaces of Law* (2014), p.2.

to him was as inevitable as that of nectar to bees. He revelled in its many cutting edges and its resulting ability to penetrate the facial neutrality of law and legal systems.

A foundational premise of critical geography is the inherently constructed quality and therefore malleability of any representation of space. A map is at best a model of a moment in time rather than a rigid constraint on future possibilities. Instead of being fixed by physical characteristics, it is a function of continuing legal, social and political (not to mention geological) processes.⁴ Although his messages often seemed deterministic, Keith enjoyed the prospect of destruction of old spatial and hence legal representations because it made way for renewal, reconfiguration and re-imagining of newer and hopefully better legal regimes. Before attending law school, he was involved in local urban renewal efforts as an artist in his hometown of Detroit.⁵ At base, he viewed geography as an ongoing authorial process, even as a dynamic act of collective imagination and implementation.

What are the key defining characteristics of critical geography? True to its progressive and variegated roots, no single definition exists. Citing to works by Saskia Sassen, Edward Soja and others, Keith defined it in part as the examination of

“the role of space in political economy and culture ... [such] that chronic underdevelopment of regions of nations is not merely accidental, but follows a certain logic. As the economies of the developed nations of the North shift from an industrial to a post-industrial economy, centered around the provision of financial services and information moving swiftly across increasingly porous borders, new types of spaces are created and older understandings of place are transformed. The development of certain regions is dependent on the underdevelopment of others. Particular nations, regions, cities and areas within cities prosper and thrive, while others decline and wither.”⁶

The inevitable interdependence between development and underdevelopment of spaces within facially neutral legal frameworks, both within and outside national boundaries, sounded as a constant theme throughout Keith’s corpus. At the dawn of a new era of global intellectual property precipitated by the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), Keith presciently claimed that the “one-size-fits-all” approach embedded with the incipient global trade and intellectual property framework would have disparate impact:

“[T]he idea of the inexorable march of globalization ... makes it seem like globalization is a largely unproblematic, homogeneous, unitary phenomenon If instead, as many commentators contend, globalization is heterogeneous, lumpy, incomplete, and uneven, and bypasses large regions of the world, then a ‘one-size-fits-all’ approach towards international intellectual property protection may reproduce on a global scale the problematic and sharp inequalities of access and information that currently characterize development on the regional or national scales.”⁷

This view is arguably bleak rather than celebratory and is seemingly deterministic (as in “history repeats itself—shrug”). But as will be discussed later, this deconstruction of conceptual models was a precursor to an attempt to rebuild them in an improved fashion.

Keith further linked his analysis of the ongoing development divide to the critique of the public-private distinction, which was a major staple of Critical Legal Studies. The public-private distinction could be viewed as a significant boundary-drawing exercise, a way to reinforce by legal means the separation of a realm of private action against national governmental power. Applied by Keith, a critical geography

⁴ Aoki, “(Intellectual) Property and Sovereignty” (1996) 48 Stan. L. Rev. 1293, 1301 (“a certain politics attaches to all representational practices”).

⁵ Margaret Chon, “Law Professor as Artist: Themes and Variations in Keith Aoki’s Intellectual Property Scholarship” (2012) 90 Or. L. Rev. 1251, 1253 (describing his background); see also “RIP: Keith Aoki”, available at <http://www.thepublicdomain.org/2011/04/27/rip-keith-aoki/> [Accessed October 22, 2014].

⁶ Aoki, “Space Invaders” (2000) 45 Vill. L. Rev. 913, 918–919.

⁷ Aoki, “(Intellectual) Property and Sovereignty” (1996) 48 Stan. L. Rev. 1293, 1344.

perspective reveals this distinction in spatial terms: the market (along with its rights-bearing individuals) carving out a private quasi-sovereign space vis-à-vis the possibly intrusive power of the sovereign state. In a sense, law provides cover for the separation of the economic, political and social domains inhabited by the private as opposed to the public. The crux of the critique is that the private and the public are not mutually exclusive, but rather mutually constitutive spaces.

For those familiar with its origins, intellectual property law vividly illustrates the legally constructed division between public and private. Originated as part of a pervasive royal regulatory regime,⁸ Anglo-American-Commonwealth copyright came into being not as a fully formed private right of authors (as the TRIPS Agreement first characterised it 20 years ago),⁹ but rather as a public regulation of the production of copies of literary works, in which authorship functioned as a legal fulcrum between private return on investment and public access.¹⁰ To Keith, this hybrid public-private origin story of intellectual property pointed away from the current (sometimes unilateral) focus on the exclusive rights provided to authors by intellectual property, much of which is automatically allocated to the private sector through commodification of information and knowledge. Rather than a permanent separation, however, he emphasised repeatedly that the private rights of intellectual property are embedded with its public interest foundations and rationales. Linking critical geography to the legal realism insights of Morris Cohen, he observed:

“Cohen claimed that legal decisionmakers could not solve recurrent problems through recourse to abstract doctrinal formalisms and categories such as the public/private distinction. Cohen tried to deromanticize and demystify how a formalistic, doctrinal approach obscures what is really at stake in legal decisions, in order to articulate how concepts like private property embodied competing values by, for example, protecting one party to a legal dispute’s freedom of action over protecting another party’s security of expectation. “Author-reasoning” in our intellectual property laws has a similarly occlusive effect to an abstract concept like “private property” in Cohen’s analysis. Our fixation on protecting the boundaries ... of authorial property obscures the lessons of the legal realists and ignores important factors, including ... the increasing relativization of most common forms of property.”¹¹

Through the lens of critical geography, Keith also lobbed a conceptual assault on the territoriality of separate political jurisdictions as a fundamental organising framework of intellectual property law and policy-making. In the mid-1990s, no form of intellectual property was left untouched by the increasing erasure of territorial boundaries, whether through often borderless digital network technologies or transnational market actors. Keith questioned the increasingly artificial boundaries drawn around creative and innovative works, especially in light of actual cultural and social practices that now had greater technical capacity to travel across state lines without permission. And the migratory flows of more tangible forms of intellectual property-protected information and knowledge (such as patented seed technology) also were expanding due to the growing reach and scope of cross-border economic transactions.

At the same time that Keith observed the demise of territorial jurisdiction as an effective organising principle for intellectual property, he questioned the default practice of sovereign nations monopolising the political representation of the public interest. This state control over norm-setting, in his view, often disingenuously purported to maximise welfare of all stakeholders within their territories. It also denied the growing pluralism of law-making sites. As he put it:

⁸ Aoki, “(Intellectual) Property and Sovereignty” (1996) 48 Stan. L. Rev. 1293, 1321–1322.

⁹ TRIPS Agreement preamble (“Recognizing that intellectual property rights are private rights.”).

¹⁰ Aoki, “(Intellectual) Property and Sovereignty” (1996) 48 Stan. L. Rev. 1293, 1327.

¹¹ Aoki, “(Intellectual) Property and Sovereignty” (1996) 48 Stan. L. Rev. 1293, 1331–1332.

“While sovereignty has always been a troubling concept, in the latter part of the twentieth century it has become increasingly so; we live in a world of horizontal, multiple, overlapping, and conflicting sovereignties in both the public and private spheres. Problems in international protection of intellectual property rights on the Net (which essentially raise the question: How do we assert the stability of territorial borders against a technology which renders those borders problematic?) are a symptom of the way our concept of sovereignty is being asked to carry more weight than it can bear.”¹²

Like earlier academic observers, Keith was wary of the tendency of sovereign nations to bargain in favour of greater exclusive rights for some of their public at the expense of the interests of others with far less sway over the prevailing political apparatus.¹³ This could be viewed as his capstone premise. In a posthumously published piece, he asserted that it would be difficult to hold the line against the increasingly dominant norm of plant genetic resources (PGRs) being treated as what he called “sovereign property”, because of the hardening of the territorial construction of PGRs through the influences of major multilateral treaties. Any opposing frames proposed by civil society groups or representatives of social movements in favour of a transnational “food sovereignty of farmers” and food security for consumers are harder to articulate, by contrast.¹⁴

The application of critical geography to global intellectual property revealed an intellectual property among the ruins—of the perpetual development divide, the public-private divide and the territoriality divide—culminating in a weakened and ineffectual system of sovereign monopoly over the public interest. There are some newer versions of these late 20th century perspectives. The next section assesses the continuing viability of these concepts and suggests newer incarnations.

Version two: Plus ça change

Keith was concerned with intellectual property issues emerging in the mid-1990s, and particularly digital and agricultural biotechnologies. Fifteen to twenty years later, many of these issues are still with us and still unresolved. With respect to the development divide, the ongoing debates in the World Intellectual Property Organization (WIPO) around the Development Agenda and in the WTO in the Doha Development Round of Trade Negotiations attest to the intractability of the perhaps utopian project of lifting all intellectual property boats together. In the realm of digital technology, the attempt to increase levels of enforcement through a proposed plurilateral mechanism—the Anti-Counterfeiting Trade Agreement—triggered a fierce global reaction by advocates of greater freedom of information flow.¹⁵ This is the latest chapter in an ongoing global policy debate over the appropriate levels of enforcement of cross-border copyright infringement.¹⁶ And despite the entry into force on October 12, 2014 of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization, which provides for access and benefit-sharing under the Convention for Biological Diversity, the protracted negotiations in the WIPO Inter-governmental Committee for Traditional Knowledge, Cultural Expression and Plant Genetic Resources illustrate that benefit-sharing of plant genetic technologies continues to elude full integration into the global intellectual property system. These recent examples arguably reinforce Keith’s concern over a zero-sum game between the intellectual property

¹² Aoki, “(Intellectual) Property and Sovereignty” (1996) 48 Stan. L. Rev. 1293, 1339–1340.

¹³ Aoki, “(Intellectual) Property and Sovereignty” (1996) 48 Stan. L. Rev. 1293, 1310 (“What troubles [Professor Jessica] Litman and others is the legislative pattern in United States copyright law of privileging private interests of authors and owners at the expense of the interests of the public in use and reuse of copyrighted information.”).

¹⁴ Chon, “Law Professor as Artist” (2012) 90 Or. L. Rev. 1251.

¹⁵ Edward Lee, *The Fight for the Future: How People Defeated Hollywood and Saved the Internet—for Now* (web-published, 2013) (detailing the mass protests against the Stop Online Piracy Act (SOPA) and the Anti-Counterfeiting Trade Agreement (ACTA) in 2012); Peter K. Yu, “Of ACTA/TPP and SOPA/PIPA” (2012) Drake University Law School, Occasional Paper in Intellectual Property Law No. 7.

¹⁶ Peter K. Yu, “The TRIPS Enforcement Dispute” (2011) 89 Neb. L. Rev. 1047.

“haves” and “have-nots” in a system that is still one-size-fits-all, despite attempts to tailor it to varying levels of development.

Areas essential to balanced intellectual property policy-making include exceptions and limitations, other flexibilities (such as flexible requirements for scope or term of protection) as well as a robust public domain. Yet exceptions and limitations have not been seriously examined as essential tools at the global policy-making level, despite growing awareness of their importance for follow-on innovation and other important public interest goals.¹⁷ Flexibilities often still seem to be viewed as harmful to intellectual property’s public interest mandate simply because they throw into question the private boundary set by exclusive rights. This was evidenced in the recent negotiation of the Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired, or Otherwise Print Disabled over the scope of the three-step test in art.11 for the exception for works for the visually impaired. Furthermore, while WIPO has recently commissioned some work on the public domain in connection with the Development Agenda,¹⁸ there are attempts in other fora to restrict the scope of the public domain. This is evident in the efforts to inject a longer term of copyright into the proposed plurilateral Trans-Pacific Partnership,¹⁹ for example. And the perpetual emphasis in bilateral treaties to increase levels of exclusivity beyond what is required by the TRIPS Agreement²⁰ illustrate that many areas of intellectual property policy-making still seem more concerned with expanding the geographic reach and space of the private realm of exclusive rights than to understand it as only one of several means to promote robust public welfare. The critique of the public-private distinction made by critical theorists including Keith highlights the complementarity and interdependence of public and private interests—including the ways that private property rights serve many social purposes and values and not just the singular, unilateral purpose of accumulating more value on the part of the rightsholder.²¹ Yet the public-private distinction continues to be reinforced today, despite the many instances where the public interest in promoting creativity, innovation and access may be negatively affected by demands by private rightsholders to expand the scope of intellectual property. This reinforcement of the private side of exclusive rights in intellectual property reflects an outmoded Blackstonian view of property, belied by the most sophisticated accounts of property theory²² with which Keith understood global intellectual property regimes.

At base, Keith’s critique of the territorial divide was animated by a deep scepticism towards the concept of a unilateral rather than plural sovereignty. Besides being descriptively inadequate, sovereign political authority over major norm-setting initiatives still too often ignore the interests and demands of multiple stakeholders within national or regional territorial blocs. Margot Kaminski has recently analysed the ongoing capture of the United States Trade Representative (USTR) by intellectual property lobbying interests that represent only a narrow sector of the public interest and public welfare at stake within the United States.²³ The USTR has only recently created a public interest trade advisory committee, purportedly “to provide policy advice on issues involving trade and from the perspective of those concerned with public interest issues”.²⁴ While laudatory, this gesture is arguably too little too late, given the enormous weight and influence of private rightsholders over many years in the existing trade advisory committee structure.

¹⁷ Pamela Samuelson, “Justifications for Copyright Limitations and Exceptions” in Ruth Okediji (ed.), *Copyright Law in an Age of Limitations and Exceptions* (forthcoming).

¹⁸ Severine Dusollier, “Scoping Study on Copyright and Related Rights and the Public Domain”, May 7, 2010, WIPO CDIP 4/3/REV.

¹⁹ Michael Geist, “Has Canada Caved on Copyright Term Extension in the TPP?”, available at <http://www.michaelgeist.ca/2014/05/tpp-copyright-term/> [Accessed October 22, 2014].

²⁰ Peter K. Yu, “Intellectual Property and Human Rights in the Nonmultilateral Era” (2012) 64 Fla. L. Rev. 1054.

²¹ Aoki, “(Intellectual) Property and Sovereignty” (1996) 48 Stan. L. Rev. 1293, 1321 (property is a “body of law that described and circumscribed a dynamic set of social relations.”).

²² Carol M. Rose, “Property in All the Wrong Places” (2005) 114 Yale L.J. 991.

²³ Margot E. Kaminski, “The Capture of International Intellectual Property through the U.S. Trade Regime” (2014) 87 S. Cal. L. Rev. 977.

²⁴ United States Trade Representative, “Requests for Nominations: Public Interest Trade Advisory Committee”, available at <http://www.regulations.gov/#/documentDetail;D=USTR-2014-0005-0001> [Accessed October 22, 2014].

Indeed, current public norm-setting landscape is increasingly criss-crossed by multiple levels of sovereign action and regulatory shifts, in response to the growing cross-border exchange of intellectual property protected goods. These levels of sovereign political action range from bilateral to plurilateral to multilateral negotiations, resulting not only in horizontal regime-shifting across different intergovernmental organisations but vertical regime-shifting across different types of treaty-making efforts.²⁵ The majority of initiatives to harmonise national laws through these newer vehicles are along the lines of increasing the reach of exclusive rights or enforcement with relatively few exceptions, such as the Marrakesh Treaty. In response, long-time observers Graeme Dinwoodie and Rochelle Dreyfuss have called for a neo-federalist form of global intellectual property law and policy-making. This is one proposal to combat the disintegration of multilateralism and growing fragmentation of the public intellectual property regimes after the TRIPS Agreement. Interestingly, Keith may have seen the growing global fragmentation as strong evidence of his claim of the inadequacy of a singular sovereign as the main regulatory node.

Thus, the takeaways from Keith's early work endure in version two. Rather than a mechanism that fosters greater integration by all stakeholders, global intellectual property regimes still seem resistant to demands by developing countries for full substantive participation in intellectual property's promise of greater development for all stakeholders. The geographic divides still mirror divides in economic, political and social power. Yet, while much has not changed, of course much also *has* changed. The next part of this essay turns to ways in which a critical geographer's perspective might view some of these more recent developments and points to incipient future pathways.

Version three: 21st century legal hacks

The information-rich spaces of North America contains numerous examples of the benefits of so-called disruptive technologies that increase creativity and innovation by providing access to key building blocks and tools for follow-on innovation. Courts and other legal institutions are responding to this accelerating economic and social sea change. One example is the judicial response to the Google Books Project and the Mass Digitization Project, which are initiatives by Google Inc, a private corporation, to digitise huge quantities of books (both books still in copyright and those that have fallen into the public domain). Among other purposes, these massive databases provide public access to digitised materials for purposes of research, access to visually disabled populations, as well as data-mining, text-mining and other non-traditional uses. In an end-run around the typical legislative process of amending the US Copyright Act, Google relied on an existing exception (the US fair use doctrine) to engage in what it argued were legally permissible practices of wholesale reproduction. Several federal courts, including the influential Second Circuit, recently agreed with this position.²⁶

As many observers have noted, private market initiatives evidence a shift within information-rich societies towards the public interest in access and non-traditional uses. Many of the newer business models rely less on control of content and more on ways that content can be personalised and distributed. For example, the popular application Facebook is premised on its users re-posting content from other websites. This and other widespread applications have given rise to the term "user-generated content",²⁷ in which the line between content provider and user has become so erased as to become virtually invisible.

Additionally, the US Supreme Court recently endorsed an interpretation of the first sale provision of the US Copyright Act that is premised on international rather than national exhaustion, thereby freeing copyrighted goods for re-sale in any private market upon first sale anywhere in the world. This decision over-rules positions taken by the USTR in its bilateral negotiations regarding the correct interpretation of the exhaustion doctrine in US law. It thus arguably exhibits less judicial deference to the political judgments

²⁵ Susan K. Sell, "TRIPS Was Never Enough: Vertical Forum Shifting, FTAs, ACTA, and TPP" (2011) 18 J. Intell. Prop. L. 447.

²⁶ *The Authors Guild v Google* 954 F. Supp. 2d 282 (SDNY 2013); *The Authors Guild v Hathitrust* 755 F.3d 87 (2nd Cir. 2014).

²⁷ Edward Lee, "Warning Up to User-Generated Content" (2008) U. Ill. L. Rev. 1459.

of the executive branch than might be expected in an international trade context. In a “pentology” of cases, the Supreme Court of Canada has refashioned the Canadian copyright regime to provide more access for education, research and other traditional uses, even going so far as to recognise “user’s rights”.²⁸ It is fair to say that there has been a recent judicial revolution regarding the scope of exclusive rights of copyright, and a shift towards recognising public access and use through fair use and other exceptions. This shift extends also to the area of patents. Over the last three years, the US Supreme Court has repeatedly held across a variety of different technologies that the subject matter requirement of patents under s.101 of the US Patent Act must be rigorously enforced lest the overall purpose of the patent system be undermined.²⁹

This turn towards greater access and acknowledgement of the importance of limitations to intellectual property is not limited to the global North. From the global South, significant court decisions have recently provided more pluralistic perspectives on the welfare calculus of intellectual property law and policy-making. These include the Indian High Court’s decision to reject a patent application covering the anti-cancer pharmaceutical Gleevac under s.3(d) of the Indian Patent Act³⁰ and the Kenyan High Court’s decision to overturn an anti-counterfeiting statute in order to promote access to generic medicines.³¹ Various actions of Brazilian and South African institutions have also relied on human rights provisions in their constitutions, against which to weigh and balance the exclusive rights of intellectual property,³² mostly to promote access to patented medicines. Again, what is notable here is the activism in defining flexibilities within the regime of exclusive rights mandated by the TRIPS Agreement and other treaties, in order to promote the public interest and welfare considerations other than innovation (such as public health). Scholars from the global South are contributing to the increasing global capacity and sophistication around intellectual property issues with original research on the benefits of collaborative and partially open innovation systems.³³

This new global intellectual property geography contains examples of shared interests between otherwise disparate geographic sectors. Geographical indications are a clear case. Old world *terroir*-oriented sovereigns in the European Union³⁴ and some developing sovereigns share a perspective that this area of exclusive rights is congruent with certain domestic social welfare gains. This shared view tends to disrupt the development divide between the global North and South. Geographical indications in all sectors are increasingly justified upon grounds such as preservation of local culture, tradition and traditional knowledge,³⁵ fostering of local (particularly rural) economic development, encouragement of biodiversity and promotion of environmental sustainability. These assorted justifications tend to disrupt the public-private divide through their recognition of public interest values of intellectual property that extend beyond encouraging innovation, and yet also promoted in part by private exclusive rights. As a legally recognised category exemplifying so-called multi-functional agriculture,³⁶ geographical indications explicitly recognise the social and political dimensions of rural spaces. They often link these community-based initiatives with

²⁸ Michael Geist (ed.) *The Copyright Pentology: How the Supreme Court of Canada Shook the Foundations of Canadian Copyright Law* (Ottawa: University of Ottawa Press, 2013).

²⁹ *Alice Corp v CLS Bank International* 134 S. Ct. 2347 (2014); *Association for Molecular Pathology v Myriad Genetics* 133 S. Ct. 2107 (2013); *Mayo Collaborative Services v Prometheus Laboratories Inc* 132 S. Ct. 1289 (2012).

³⁰ Ryan Abbott, “Of Evergreening and Efficacy: The Glivec Patent Case”, *GESPAM*, April 29, 2013 (describing *Novartis AG v Union of India*). See also Shamnad Basheer and Prashant Reddy, “The ‘Efficacy’ of Indian Patent Law: Ironing out the Creases in Section 3(d)” (2008) 5 *Scripted* 232 (describing prior administrative proceedings in the same matter).

³¹ Ruth L. Okediji, “Legal Innovation in International Intellectual Property Relations: Revisiting Twenty Years of the TRIPS Agreement” (2014) 36 *U. Pa. J. Int’l L.* (forthcoming) (describing *Asero Ochieng v Attorney General*, Petition No.409 of 2009 (H.C.K.) (Kenya)).

³² Duncan Matthews, *Intellectual Property, Human Rights and Development: The Role of NGOs and Social Movements* (Cheltenham: Edward Elgar Publishing, 2011), pp.103, 133–134.

³³ Jeremy de Beer, Chris Armstrong, Chidi Oguamanam and Tobias Schonwetter (eds), *Innovation and Intellectual Property: Collaborative Dynamics in Africa* (Cape Town: University of Cape Town Press, 2014).

³⁴ Irene Calboli, “*In Territorio Veritas*: Bringing Geographical Coherence into the Ambiguous Definition of Geographical Indications of Origin under TRIPS” (2014) 6 *WIPO J.* (forthcoming).

³⁵ Peter Drahos and Susy Frankel (eds), *Indigenous Peoples’ Innovation: Intellectual Property and Pathways to Development* (Canberra: Australian National University Press, 2012).

³⁶ Dev Gangjee, *Relocating the Law of Geographical Indications* (Cambridge: Cambridge University Press, 2012); Julian Clark, “Geographies of Multifunctional Agriculture: Developing Governance Explanations” (2010) 4 *Geography Compass* 803.

larger economic and political units, sometimes operating across local, national and international spaces by marketing locally produced products to global markets. This type of multi-level global governance arguably disrupts the territorial divide.

As a result, both developing and developed sectors are re-landscaping the geography of global intellectual property to meet domestic welfare demands more explicitly throughout the public law regimes. In this respect, the development divide seems to be shifting, at the very least, because developing countries are sometimes leading rather than mostly following.³⁷ Ruth Okediji views these efforts as significant “legal innovations”. By this she means

“new techniques, institutions, or methods specifically designed in the light of TRIPS obligations, and that facilitate implementation of those obligations in a manner consistent with or that reconcile national welfare goals as the primary justification for IP protection.... Across developed and developing countries, legal innovation offers a fine instrument for defining sovereign responsibility for the effects of IP rights in society”.³⁸

Another example of a non-judicial legal innovation from the global North would be the considerable efforts by the UK Government to examine and potentially reform the copyright system with evidence-based criteria.³⁹

These recent developments go some way to address the critiques in versions one and two of critical geography described above. It is true that these efforts are territorially based actions of public actors; they are premised on classic international relations perspectives that sovereigns are the ultimate legitimate arbiters of domestic social welfare. Despite the increasing sophistication and assertion of multiple public interest values in the public arenas of intellectual property law-making, states can and do often fail to strike the best bargain for the majority of their inhabitants, whether because of state failure, lack of capacity or regulatory capture. Yet the examples mentioned here show that the sovereign speaks with many voices. Whether this largely judicially led change will spill over internally into balanced legislative reform or externally into balanced negotiating stances by other branches of government remains an open question.

In addition to the actions of public actors, private ordering increasingly defines or impacts global intellectual property, often via private intermediaries and stakeholders. The newer geography of intellectual property lacks a robust mapping of transnational regulatory efforts that blur public with private interest, in the form of public-private partnerships and other hybrid or quasi-regulatory institutions and stakeholders.⁴⁰ Within this emerging landscape, non-state actors, particularly non-profits, have become a formidable presence as regulatory entrepreneurs.⁴¹ Working together with states and for-profit firms, transnational non-governmental organisations increasingly engage in cross-border efforts to encourage both innovation and access, often relying on private law (licences via contracts or remedies via tort) and soft law (voluntary standards, protocols and social norms) instead of the enforceable public codes foregrounded by treaties and statutes. Regulatory cooperation rather than competition between private and public sectors is a desired means of implementation in many of these newer formats. While falling short of the permanence and sustainability that would be expected from public regulatory institutions, these emerging forms nonetheless have the potential virtues of being nimble, and therefore perhaps more responsive to rapid change in the current highly dynamic and information-dense innovation environment.

³⁷ Jerome H. Reichman, “Intellectual Property in the Twenty-First Century: Will the Developing Countries Lead or Follow?” (2009) 46 Hous. L. Rev. 1115.

³⁸ Okediji, “Legal Innovation in International Intellectual Property Relations” (2014) 36 U. Pa. J. Int’l L. (forthcoming).

³⁹ Ian Hargreaves, *Digital Opportunity: A Review of Intellectual Property and Growth* (Newport: UK Intellectual Property Office, 2011).

⁴⁰ Margaret Chon, “PPPs in Global IP (Public-Private Partnerships in Global Intellectual Property)” in Graeme B. Dinwoodie (ed.), *Methods and Perspectives in Intellectual Property* (Cheltenham: Edward Elgar Publishing, 2013); Margaret Chon “Marks of Rectitude” (2009) 77 Fordham L. Rev. 101.

⁴¹ Lee Jyh-An, *Non-Profit Organizations and the Intellectual Commons* (Cheltenham: Edward Elgar Publishing, 2013).

In sum, the more recent shifts in the global intellectual property governance landscape have been triggered by more sophisticated norm-interpretation by public law-makers, increased norm-setting by private market actors, and a growing influence of transnational non-market stakeholders. The version one and two stories of global intellectual property tended to view these interventions as a zero-sum game—that is, as a simple set of dichotomies between global North and global South, between public and private ordering, or between state-based and more distributed regulatory systems. The critical geography insights were based upon the enduring quality of these binaries.

These various examples of incipient and evolving changes within the global intellectual property regime suggest possible legal hacks to the longstanding boundaries within global intellectual property, particularly to the concerns expressed in version one and two critiques of the development, public-private and territorial divides. One tentative way to map this version three geography is through a matrix (rather than a binary). This would represent multiple dimensions, including all the different ways an intellectual property-related value might be represented in the global regime complex through norm-setting, norm-interpretation or norm-enforcement. This way of visualising the new geography of global intellectual property might not only turn around the critiques posed by the early versions, but also interrupt the usual binary oppositions between exclusive rights and access.

It is tempting to make more of the examples described in this section than may be warranted by a thorough examination of all the evidence. But these version three developments do point the way towards a more fluid transnational policy dialogue in the future—one that does not have a foregone outcome, one that may be more consistently evidence-based, one that is responsive to the human development agenda expressed in the forthcoming post-2015 Sustainable Development Goals, and at the same time one that is always open to other future innovations in technology and legal institutions.

Conclusion

By situating global intellectual property within critical geography, Keith Aoki was attempting to articulate an incipient social justice critique of the commodification of knowledge. He was especially concerned about how a unilateral and excessive focus on commodification may impede the more fundamental purposes of intellectual property to foster innovation and creativity. Thus, Keith's transplantation efforts were a heavily normative enterprise.⁴² His approach to justice in global intellectual property was simultaneously internal and external to intellectual property.⁴³

Critical geography is a very different discipline from law; it is neither conservative nor solipsistic. It provides a set of external perspectives with which to critique law as a supposedly neutral ground of norm-setting, norm-interpretation and norm-enforcement. At the same time, critical geography provides conceptual and rhetorical tools to show how critiques may have been internalised within law. It also provides a partial means for assessing these changes. One can trace this progressive evolution of the global or international intellectual property regime complex through the different versions described in this essay.

Today it may not be so surprising to think of intellectual property law as being instrumental to multiple ends, including those supportive of human flourishing in the broadest sense.⁴⁴ This view we take for granted now was somewhat unrecognisable, however, when Keith first started thinking about it 20 years ago. Like much of his other scholarship, it was ahead of the curve. Dedicated to creativity and innovation in thinking about the law, he also pushed creativity and innovation within intellectual property law, which is itself

⁴² Braverman, Blomley, Delaney and Kedar, *The Expanding Spaces of Law* (2014), p.6.

⁴³ Frank J. García and Lindita V. Ciko, "Theories of Justice and International Economic Law" in John Linarelli, *Research Handbook on Global Justice and International Economic Law* (Cheltenham: Edward Elgar Publishing, 2013), p.54.

⁴⁴ Brett M. Frischmann, "Capabilities, Spillovers, and Intellectual Progress: Toward a Human Flourishing Theory for Intellectual Property" (2014) Benjamin N. Cardozo School of Law, Yeshiva University, Legal Studies Research Paper, No.442.

concerned with fostering innovation. His ensuing insights, derived from critical geography and elsewhere, challenge us to assess, re-imagine and thoughtfully innovate within these global legal regimes.

Mapping the New Geographies of Intellectual Property Rights in the 21st Century

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☞ Geographical indications; Geography; Intellectual property; International law; Jurisprudence

Introduction

The substantive boundaries of intellectual property are rapidly shifting (if not disintegrating) in the face of the demands of the digital environment and an increasing emphasis on “flexibilities” in multilateral treaty obligations to support social justice, sustainable development and access to information concerns (among others).¹ In a recent chapter on flexibilities in its online course in Advanced International Copyright and Related Rights,² WIPO identified over 20 flexibilities in copyright alone, including the scope of the public domain, the test for “originality”, limitations on copyright for purposes of facilitating access to works, such as in the case of disabilities, international exhaustion and enforcement modalities.³ The official recognition of so much flexibility, and in foundational areas of copyright such as originality, is a welcome development. Yet, as the focus on flexibilities becomes more insistent, and across the entire spectrum of intellectual property rights, the need for normative standards to help “map” the new boundaries such “flexibilities” create becomes more pressing.

Fortunately, “geography” serves not merely as a metaphor for these mapping activities but also as a guiding paradigm for future standards. This “geography” is not necessarily the “geography” of the physical world—the map of the mountains, rivers, deserts and seacoasts of the globe—although physical geography may play a role in such activities. Instead, it is the legal “geography” created by the scope of intellectual property rights established by new norms that will create the ultimate borders between public use and protected rights in the 21st century.

The inter-relationship between law and geography is not new. As early as the 1920s, legal scholars were using the phrase “legal geography” and initiating a far-reaching examination of the impact of physical “space” (property) on legal obligations.⁴ In this article, I examine the extent to which the general concepts of legal and physical “geographies” (bordered conceptual and physical spaces) can be utilised to guide the creation of new “borders” for intellectual property rights in the 21st century. “Geography”—or more particularly its impact on the normative rights represented by intellectual property—is not the only basis

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¹ See generally Doris Estelle Long, “Deviant Globalization: The Next Step in the Multilateral Protection of Intellectual Property” (2012) 2 *Nordic J. Com. L.* 1.

² *WIPO Advanced Course on Copyright and Related Rights*, DL-201, available at http://www.wipo.int/academy/en/courses/distance_learning/dl201.html [Accessed October 22, 2014].

³ e.g. Severine Dusollier, “Scoping Study on Copyright, Related Rights and the Public Domain”, CDIP/7/INF/2, March 4, 2011.

⁴ e.g. Alexander (Sandy) Kedar, “On the Legal Geography of Ethnocratic Settler States: Notes towards a Research Agenda” (2003) 5 *Current Legal Issues* 401.

on which choices between protection and access can be made. But, as described more fully below, it has played a powerful historical role in the creation of such rights. Indeed, in the two foundational multilateral instruments for intellectual property rights, the Berne Convention for the Protection of Literary and Artistic Works (Berne Convention) and the Paris Convention for the Protection of Industrial Property (Paris Convention), geography in one of its most prevalent legal forms—territoriality—became one of the driving norms for intellectual property “mapping” activities.

There is no question that the evolution of intellectual property demands has led to new considerations of the balance between access and protection across the entire spectrum of rights. From access to medicines for patents to free speech concerns for copyrights to non-commercial uses for trademarks, intellectual property rights as conceived in the 19th and 20th centuries are undergoing a profound revision. Whether these alterations are part of the increasing international focus on “flexibilities”⁵ or part of a “resistance” to present intellectual property norms generally,⁶ they are undeniably changing the boundaries of intellectual property rights.

In the United States, for example, these changes have resulted in a new “transformation” test for “fair uses” under copyright that has expanded the boundaries for the public domain. Most recently, in *Authors Guild Inc v Google Inc*, the US District Court for the Southern District of New York found that Google’s digital scanning project qualified as a transformative, acceptable fair use:

“Google’s use of the copyrighted works is highly transformative. Google Books digitizes books and transforms expressive text into a comprehensive word index that helps readers, scholars, researchers, and others find books. ... Google Books ... has transformed book text into data for purposes of substantive research, including data mining and text mining in new areas, thereby opening up new fields of research. Words in books are being used in a way they have not been used before. Google Books has created something new in the use of book text—the frequency of words and trends in their usage provide substantive information.”⁷

We have seen similar changes in domestic patent law to allow greater access to patented pharmaceuticals. For example, in India, compulsory licences are available three years after the patent grant upon evidence:

- (a) that the reasonable requirements of the public with respect to the patented invention have not been satisfied, or
- (b) that the patented invention is not available to the public at a reasonably affordable price, or
- (c) that the patented invention is not worked in the territory of India.⁸

In *Natco Pharma Ltd v Bayer Corp*,⁹ the Comptroller of Patents granted an Indian company, Natco Pharma Ltd, a compulsory licence to sell sorafenib, the generic version of the German-based Bayer AG’s patented kidney and lung cancer drug Nexavar. In support of his decision to grant the compulsory licence, the Controller, relying on the above provision, cited three factors: the high prices Bayer charged for the drug (US \$5,600 per month as opposed to Natco’s claimed \$177 per month), the small amounts of the product Bayer had imported to meet domestic needs and its failure to manufacture the drug in India. In establishing the lack of affordability, the Controller stressed that the limited amount of the drug Bayer sold in light of anticipated need:

“It stands to common logic that a patented article ... was not bought by the public due to only one reason, *i.e.*, its price was not reasonably affordable to them.”

⁵ e.g. Doha Declaration on the TRIPS Agreement and Public Health, November 14, 2001, WT/MIN(01)/DEC2.

⁶ Ruth Okediji, “Public Welfare and the International Patent System” in Ruth Okediji and Margo Bagley (eds), *Patent Law in Global Perspective* (Oxford: Oxford University Press, 2014).

⁷ *Authors Guild Inc v Google Inc* 954 F. Supp. 2d 282, 291 (SDNY 2013).

⁸ India Patent Act of 1970 as amended s.8(1).

⁹ *Natco Pharma Ltd v Bayer Corp*, Compulsory Licence Application No.1 of 2011, Controller of Patents, Mumbai, March 9, 2012.

Bayer countered that its drug was reasonably priced since it was charging the same price in all countries, but the Controller rejected that defence. Ultimately, he granted Natco a non-exclusive licence to manufacture and sell the drug in India for \$177 per month in exchange for a six per cent royalty.

The evolution towards a more flexible approach to permit greater access to intellectual property-based works has similarly appeared in multilateral treaties. For example, in the negotiations that led to the establishment of the Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired, or Otherwise Print Disabled (Marrakesh Treaty), the three-step test for fair use under art.13 of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement), among others, was directly challenged for its failure to take into consideration emerging interests, including those of nongovernmental organisations and end users. Ecuador, Peru and Uruguay offered a proposed art.2 with the title “Interpretation of the Three-Step Test”. The proposed interpretation suggested additional interests that should be considered in deciding if any particular use qualifies for an exception:

“When applying either Article 9.2 Berne, 13 TRIPS, 10 [WIPO Copyright Treaty], or similar provision in any other multilateral treaty, nothing shall prevent contracting parties to interpret the three-step test in a manner that respects the legitimate interests, including of third parties, deriving from educational and research needs, and other human rights and fundamental freedoms; and other public interests, such as the need to achieve scientific progress and cultural, educational, social, or economic development, protection of competition and secondary markets.”¹⁰

Although such text never made it beyond the negotiation stages of the Marrakesh Treaty, the Preamble to that Treaty recognised the need for the flexibility it suggested. In para.10, the Treaty provided:

“Reaffirming the obligations of Contracting Parties under the existing international treaties on the protection of copyright and the importance and *flexibility* of the three-step test for limitations and exceptions established in Article 9(2) of the Berne Convention for the Protection of Literary and Artistic Works and other international instruments ...”

Patents have similarly been subjected to increasing multilateral efforts to increase public access, most notably in connection with pharmaceutical patents. The clearest example of such efforts is the creation of art.31*bis* as a protocol to the TRIPS Agreement. Established in 2005 as part of the Doha Development Round of Trade Negotiations, art.31*bis* grants eligible countries the right to grant compulsory licences for patented pharmaceuticals for purposes of importation in cases where:

- “2 (a) (i) it has insufficient or no manufacturing capacities in the pharmaceutical sector for the product in question ... ; and ...
- (ii) confirms that, where a pharmaceutical product is patented in its territory, it has granted or intends to grant a compulsory licence in accordance with Articles 31 and 31*bis* of this Agreement ... ;
- (b) [where] the compulsory licence ... contain[s] the following conditions:
 - (i) only the amount necessary to meet the needs of the eligible importing Member may be manufactured under the licence and the entirety of this production shall be exported to the Member... ;
 - (ii) products produced under the licence shall be clearly identified as being produced under the system through specific labelling or marking. Suppliers should distinguish such products through special packaging and/or special colouring/shaping of the products themselves, provided that such distinction is feasible and does not have a significant impact on price ...”.

¹⁰ “Draft Compilation of Limitations and Exceptions for Educational Research Institutions”, p.17, available at <http://www.ip-watch.org/weblog/wp-content/uploads/2012/07/SCCR-first-secretariat-draft-compilation.pdf> [Accessed October 22, 2014].

This increasing emphasis on access as a potential paradigm for intellectual property rights underscores the increasing role that “flexibilities” play in current interpretations of intellectual property rights. I do not mean to suggest that flexibility in interpreting domestic laws under multinational obligations is a new development. To the contrary, such flexibility has been a hallmark of international standard-setting in the past. The new combination of such domestic flexibility in the face of a greater international demand for public access across historically strong rights-protected boundaries, however, has placed new stresses on these boundaries.

It has also suggested a strong alternative paradigm to the traditional geographic one—a paradigm based on public access as the governing principle. Yet, before we create new geographies of intellectual property rights based on this access paradigm, we must understand the precise nature of the geography that we are changing.

Geography, destiny and intellectual property

Geography has often been defined as “destiny” particularly in connection with the industrial development of a particular country. Jared Diamond, one of the foremost exponents of geographic industrial determinism of the 1980s, rejected cultural or other explanations to support historic distinctions in industrial development in favour of the simple impact of physical geography:

“History followed different courses for different peoples because of differences among peoples’ environments ... In short, Europe’s colonization of Africa had nothing to do with differences between European and African peoples themselves ... Rather, it was due to accidents of geography and biogeography—in particular, to the continents’ different areas, axes, and suites of wild plant and animal species. That is, the different historical trajectories of Africa and Europe stem ultimately from differences in real estate.”¹¹

Beyond industrial determinism, physical geography has also effected cultural development. Mountains, deserts and jungles generally serve to isolate communities from one another, while rivers and flatlands generally facilitate cross-border and cross-cultural exchanges. Thus, for example, the traditional indigenous textiles of the Kuna Yala of the San Blas Islands of Panama reflect a culture developed apart from foreign contact until the colonisation of the Spanish Empire in the 16th century. These indigenous textiles, referred to as “molas”, consist of elaborate embroidery designs created by a reverse appliqué pattern historically used on dresses and blouses.¹² Only women of the tribe who have been trained in the stories represented by the geometric shapes used in the designs, and in the special hand embroidery that creates them, are authorised to produce these molas.

By contrast, the traditional embroidery of Gujarat, India, reflects India’s longstanding role as a trade cross-roads. Created from cotton grown in the region, the embroidered images incorporate a wide range of both geometric designs and physical elements, such as elephants and people.¹³ Most significantly, the abhala style textiles in Gujarat incorporate mirrors throughout the design, giving it a bold festive appearance.

The geographic foundations of these culturally distinctive goods is underscored by the use of geographic indications to protect them.¹⁴ Thus, the various textiles created in the Gujarat province of India have been registered under such diverse geographic indications as “Patan patola”, “Kutch embroidery” and “Tangaliya shawls”.

¹¹ Jared Diamond, *Guns, Germs and Steel: The Fates of Human Societies* (New York: W.W. Norton & Company, 1991), pp.25 and 401.

¹² On Kuna Yala clothing designs and techniques, see Mari Lyn Salvador, “Kuna Women’s Arts: Molas, Meaning, and Markets” in Eli Bartra (ed.), *Crafting Gender: Women and Folk Art in Latin America and the Caribbean* (Durham: Duke University Press, 2003), p.47. For pictures of traditional and non-traditional mola patterns, see Maricel E. Presilla, *Mola: Cuna Life Stories and Art* (New York: Henry Holt and Co, 1996).

¹³ “Gujarat’s Textile Handicraft, a Legacy of Indian Culture”, available at <http://blog.indianeagle.com/2013/10/26/gujarats-textile-handicraft-a-legacy-of-indian-culture> [Accessed October 22, 2014].

¹⁴ TRIPS Agreement art.22.

Geographic determinism remains a potent, if somewhat altered, force today. As Robert Kaplan in his latest work *The Revenge of Geography* warns:

“[R]ather than eliminating the relevance of geography, globalization is reinforcing it. Mass communications and economic integration are weakening many states, exposing a Hobbesian world of small, fractious regions. Within them, local, ethnic, and religious sources of identity are reasserting themselves, and because they are anchored to specific terrains, they are best explained by reference to geography. Like the faults that determine earthquakes, the political future will be defined by conflict and instability with a similar geographic logic. The upheaval spawned by the ongoing economic crisis is increasing the relevance of geography even further, by weakening social orders and other creations of humankind, leaving the natural frontiers of the globe as the only restraint.”¹⁵

Geography similarly remains a viable basis for exploring the future boundaries of intellectual property rights in the 21st century. Although I do not believe that geography is an immutable determiner of fate, there is no question that physical geography has played a role in the creation of disparate intellectual property systems and continues to play a role today. The modern intellectual property laws and treaties that shape current debates over intellectual property geographies grew up largely in the cauldron of Western Europe under the combined forces of the Industrial Revolution, 19th century Neo-Imperialism and the global trade that they engendered.¹⁶ The current impact of geography on intellectual property systems is amply demonstrated by countries such as China, Brazil and India where stronger intellectual property enforcement exists along the developed coastal areas and is largely non-existent in the interior regions where geography has given rise to a different set of factors to impede its protection.

Beyond physical limitations on enforcement, geography also gave rise to cultural limitations on such enforcement. In one of the earliest, most recognised, works in the field, William Alford’s *To Steal a Book Is an Elegant Offense: Intellectual Property Law in Chinese Civilization* underscored the impact of Confucianism on intellectual property protection in China:

“[T]he seventeenth and eighteenth centuries witnessed the development of an approach toward intellectual property in Europe that had no counterpart in imperial Chinese history. Simply stated, there developed in England and on the Continent the notion that authors and inventors had a property interest in their creations that could be defended against the state. Society, growing numbers of Europeans came to believe, would benefit by providing incentives to engage in such work and disseminate the results. China, by contrast, continued to regulate this area predominantly in terms of however best to maintain the state’s authority ... [I]t is to political culture that we must turn for the principal explanation as to why there were no indigenous counterparts to contemporary ideas of intellectual property ... Lying at the core of traditional Chinese treatment ... was the dominant Confucian vision of the nature of civilization and of the constitutive role played therein by a shared and vital past ... Simply stated, the need to interact with the past sharply curtailed the extent to which it was proper for anyone other than persons acting in a fiducial [sic] capacity to restrict access to its expressions.”¹⁷

¹⁵ Robert D. Kaplan, “The Revenge of Geography” (2009) 172 Foreign Pol’y 96, 98. Kaplan expanded these views in his subsequent work, *The Revenge of Geography* (New York: Random House, 2012), pp.34–35.

¹⁶ Christopher May and Susan Sell, *Intellectual Property Rights: A Critical History* (Boulder: Lynn Rienner Publishers Inc, 2006); Catherine Seville, *The Internationalisation of Copyright Law: Books, Buccaneers and the Black Flag in the Nineteenth Century* (Cambridge: Cambridge University Press, 2006); Doris Estelle Long, “Exposing the Processes of Empire in the International Protection of Intellectual Property” in Debora Halbert and William T. Gallagher (eds), *Intellectual Property in Context: Law and Society Perspectives* (Cambridge: Cambridge University Press, 2014).

¹⁷ William P. Alford, *To Steal a Book Is an Elegant Offense: Intellectual Property Law in Chinese Civilization* (Stanford: Stanford University Press, 1995), pp.18–21.

While Alford's view of the inherent cultural conflicts between Confucianism and intellectual property rights has been subsequently questioned,¹⁸ his contention that cultural differences lie at the heart of distinctions regarding the degree and scope of protection afforded intellectual property rights in various countries remains potent today. These distinctions are not limited to East-West differences in culture. To the contrary, they underscore some of the critical differences in protection that have developed among the West as well. The history of intellectual property dispute settlement proceedings before the World Trade Organization is rife with disputes arising between the United States and the European Union.¹⁹

Such geographically based cultural differences also impact the present demands for enhanced access to assure the rights to free speech and cultural participation. Article 10 of the Universal Declaration of Human Rights expressly recognises that "[e]veryone has the right to freedom of opinion and expression" and defines this right as including the freedom "to seek, receive and impart information and ideas through any media and regardless of frontiers". Article 27 of that instrument similarly recognises that "[e]veryone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits". The domestic application of these rights are strongly affected by the cultural geographies of their respective countries. In some countries, such as Panama and Senegal, for example, the rights of indigenous peoples to participate in their "culture" are protected through domestic regimes protecting "traditional knowledge" in the form of "traditional cultural exceptions", such as folklore.²⁰ Other countries, such as the United States and Canada, generally eschew such regimes in favour of specialised protection under non-IP related laws.²¹

Finally, "geography" ultimately defines the increasing demands for technological access for purposes of economic development. The North-South debates that surrounded the ultimate establishment of the TRIPS Agreement were centred on geographically delimited development concerns.²² These concerns were ultimately reflected in art.8 which provides:

"Members may, in formulating or amending their laws and regulations, adopt measures necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socio-economic and technological development, provided that such measures are consistent with the provisions of this Agreement."

Article 7 of the TRIPS Agreement stresses the developmental role of intellectual property protection, requiring that

"[t]he protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology ... in a manner conducive to social and economic welfare ..."

This critical developmental role of intellectual property ultimately resulted in the creation of a Development Agenda before WIPO, as well as the emergence of domestic industrial development strategies focused on the role of intellectual property as a basis for increasing local innovation. The governments from countries as diverse as China, India and the United States have issued public innovation strategies that premise such innovation on intellectual property access and protection. The choices are as divergent as the geographies and cultures that give rise to such strategies. Thus, the United States has emphasised the increasing need for greater enforcement of its citizens' intellectual property rights:

¹⁸ Peter K. Yu, "Intellectual Property and Asian Values" (2012) 16 Marq. Intell. Prop. L. Rev. 329, 340–349.

¹⁹ e.g. "United States—Section 110(5) of the US Copyright Act", Report of the Panel, June 15, 2006, WT/DS/1601R.

²⁰ *Database of Traditional Knowledge and Traditional Cultural Expressions Laws*, available at <http://www.wipo.int/tk/en/databases/tklaws> [Accessed October 22, 2014].

²¹ Native American Graves Protection and Repatriation Act, 25 U.S.C. ss.3001–3013 (2012) (protecting objects of "cultural patrimony" of qualified "Indian tribes").

²² e.g. Carlos Alberto Primo Braga, "The Economics of Intellectual Property Rights and the GATT: A View from the South" (1989) 22 Vand. J. Transnat'l L. 243.

“Intellectual property is to the digital age what physical goods were to the industrial age. We must ensure that intellectual property is protected in foreign markets and promote greater cooperation on international standards that allow our technologies to compete everywhere.”²³

By contrast, China’s 2008 National Intellectual Property Strategy emphasised the developmental role of such protections, including the critical need for public access to innovation:

“Coordination and uniformity between intellectual property policy and policies of culture, education, science, and health, need to be strengthened to safeguard the right of the public to legally and rationally utilize innovation findings and information in their cultural, educational, scientific and public health activities, promote the fair sharing of innovation and information and ensure that the government is able to deal with public crises.”²⁴

Geography, territory and 19th century “maps”

Beyond its role in diverse access and development trends, “geography” has historic normative claims that support its adoption as the continuing paradigm for establishing 21st century intellectual property boundaries. Geography’s legal cousin “territory” formed the fundamental backbone for international intellectual property protection in early multinational treaties. Both the Berne and Paris Conventions were born during the 19th century when Neo-Imperialism flourished. Both Conventions reflect the philosophic foundations of Neo-Imperialism in the strong relationship they established between intellectual property rights and the sovereign authority of the country in which the right was sought to be protected.²⁵ Although both Conventions embraced national treatment as a *plurilateral* obligation,²⁶ this advance was tempered by the continuing recognition of sovereign power over the terms on which such national treatment would be extended.

Article 2 of the 1886 Berne Convention premised national treatment on “the accomplishment of the conditions and formalities prescribed by law in the country of origin of the work”.²⁷ In addition, points of attachment required to bring a copyrighted work within the scope of protection of the Convention were clearly tied to territorial concerns. Only works of nationals of member countries qualified for protection.²⁸ Furthermore, enforcement of the rights granted under the Convention, including seizure of pirated goods, was expressly subject to the domestic legislation of the country where such seizure was sought.²⁹ Even in areas where substantive standards were established, such as in the definition of a copyright protectable work under art.4 of the Convention, parties were free to maintain domestic variations in the types of works for which protection would be granted, particularly in connection with newly emerging technologies, and commercially useful applications of copyrighted works to marketed goods—including, for example, applied art and cinematography.³⁰

²³ National Economic Council, “A Strategy for American Innovation: Driving towards Sustainable Growth and Quality Jobs”, available at <http://www.whitehouse.gov/administration/eop/nec/StrategyforAmericanInnovation> [Accessed October 22, 2014].

²⁴ “Outline of the National Intellectual Property Strategy”, available at <http://www.wipo.int/wipolex/en/details.jsp?id=859> [Accessed October 22, 2014].

²⁵ Long, “Exposing the Processes of Empire in the International Protection of Intellectual Property” in Halbert and Gallagher (eds), *Intellectual Property in Context: Law and Society Perspectives* (2014).

²⁶ Paris Convention for the Protection of Industrial Property 1883 art.2; Berne Convention for the Protection of Literary and Artistic Work 1883 art.2.

²⁷ The ultimate elimination of formalities as a limitation on domestic copyright protection occurred during the Berlin Revision in 1908 (art.5(1)).

²⁸ Berne Convention for the Protection of Literary and Artistic Work 1883 art.2. Article 3 of the current Act of the Berne Convention provides for expanded points of attachment, including the place of first publication for authors who were not nationals of member countries.

²⁹ Article 12 of the original Berne Convention required the seizure of pirated goods “on importation”, but provided that such seizure “take place in accordance with the domestic legislation of each country”. The reliance on domestic legislation for accomplishing seizures of pirated goods has been retained to the present day. Berne Convention (Paris Act 1971) art.16(3).

³⁰ Compare Berne Convention 1886 art.4 (no listing of applied art as covered copyrightable work) with Berne Convention (Berlin Act 1908) art.4 (adding to the list of protected works a special exception for “works of art applied to industrial purposes” which only need to be protected “so far as the domestic legislation of each country allows”).

Industrial property protection under the Paris Convention reflected an even greater affirmation of the power of sovereigns over the scope of protection afforded intellectual property within their territories. Even the national treatment obligation for patents contained in art.2 of the 1883 Paris Convention was strictly limited by the requirement that inventors comply with any “formalities and conditions” the protection-seeking country imposed, including, critically, registration and examination obligations. Countries were also granted the right to obligate patent holders to practice their invention within the territorial boundaries of the granting country in order to maintain patent rights. Article 5 expressly provided that patents remained under any working obligation [*“l’obligation d’exploiter son brevet”*] that might exist in the country where protection was sought. The obligation to “work” or practice the patented invention within the country allowed sovereigns to impose compulsory licences, and ultimately to revoke the patent grant if the owner failed to work the invention within a particular period of time. A local working requirement assured domestic access to foreign technologies beyond that obtainable from the mere disclosure contained in the patent grant.

Yet, despite the strong territorial nature of intellectual property rights in the 19th century, there was already evidence that such territoriality was giving way in the face of the demands of international trade. As early as 1886, in *Apollinaris Co v Scherer*,³¹ one of the first in a line of cases in the United States that are now referred to as “grey market” or “parallel import” cases, the court specifically rejected arguments about the impact unauthorised importation of otherwise lawful goods would have on the US trademark owner’s rights. Instead, the court found no trademark violation since the “Hunyadi Janos” mark legitimately denoted the source of the bottled spring water at issue. The court recognised that the plaintiff’s territorial rights did not constrain the source-designating function of the mark:

“[T]he defendant is selling the genuine water, and therefore the trade-mark is not infringed. There is no exclusive right to the use of a name or symbol or emblematic device *except to denote the authenticity of the article* with which it has become identified by association. The name has no office *except to vouch for the genuineness of the things* which it distinguished from all counterfeits; and until it is sought to be used as false token to denote that the product or commodity to which it is applied is the product of commodity which it properly authenticates, the law of trademark cannot be invoked.”³²

This “universality” approach, however, was expressly rejected by US courts in *A Bourjois & Co Inc v Katzel* in 1923,³³ a time when the first drafts for protection of well-known marks outside of traditional domestic registration obligations were being circulated internationally.³⁴

Technology has similarly eroded the utility of “territory” as a foundational principle. The development of new global communications media, including satellite and the internet, undermined the earlier reliance on territory as the governing geography for intellectual property rights. To the contrary, new issues in mapping the boundaries of intellectual property rights arose, focussing *not* on cultural or technological boundaries, *but instead* on the rights of diverse end users to cross such boundaries to secure unfettered access to protected works. Territoriality for trademarks eroded in the face of domain names whose global utility demanded an international solution. Copyrights became global communication tools as user-generated content flooded the internationally accessible media of digital communications. If globalisation did not create the promised “global consumer culture”,³⁵ it certainly expanded the international reputation of

³¹ *Apollinaris Co v Scherer*, 27 F. 18 (CCSDNY 1886).

³² *Apollinaris* 27 F. 18, 20 (emphasis added).

³³ *A Bourjois & Co Inc v Katzel*, 260 U.S. 689 (1923).

³⁴ Doris Estelle Long, “‘Unitorrial’ Marks and the Global Economy” (2002) 1 J. Marshall Rev. Intel. Prop. L. 191.

³⁵ Doris Estelle Long, “‘Democratizing’ Globalization: Practicing the Policies of Cultural Inclusion” (2002) 10 Cardozo J. Int’l & Comp. L. 217, 233–234.

well-known brands such as Starbucks coffee, Guinness beer, Samsung smartphones, Apple computers and Alibaba internet services.

These erosions of earlier territorially bounded rights, combined with access and social justice demands for flexibility, necessitates a revised “map” for intellectual property rights. Yet, as intellectual property geographies are being revised to reflect the wide array of new agencies and concerns that are developing new “flexibilities” for such rights, it is imperative that we understand the consequences of these new boundaries. If we want to move forward into a more flexible intellectual property geography that provides a balanced approach to protection/access issues, we need to identify and avoid the fallacies of 19th century rights mapping efforts. Without such efforts, we risk creating a new geography of rights that is no more responsive to present realities than earlier geographies.

In the 19th century, the lure of the “civilising” message of property and technology motivated the strong protectionist regimes of the Berne and Paris Conventions. Individuated creativity became the norm for intellectual property. Copyright required “originality”, and patents required identified inventors. Such individuated creativity was combined with property-based rhetoric that transformed intellectual property into the highly protected legal creature of today. Yet the arguably negative influences of “geography” on intellectual property accessibility does mean that access should be automatically accepted as the paradigm for use in crafting 21st century intellectual property “geographies”. Just as the progressive benefits of technology and property might have been overstated in the 19th century, so too may have the developmental benefits of open access today. To avoid such imbalances, we need a more nuanced approach that builds on the positive lessons of earlier geographies, while simultaneously crafting new boundaries to reflect the altered realities of the 21st century.

Creating a new map for the 21st century

Despite the apparent protectionist tendencies of territorially (geographically) based rights, continuation of this paradigm does not automatically mean continuation of present high protectionism. To the contrary, the history of international intellectual property standards memorialised in the Berne and Paris Conventions of the 19th century underscores that the standards contained in those instruments did not represent any inevitable protectionist choice on behalf of the negotiating parties. The myth of the monolithic protectionism of 19th century standards ignores the strong anti-protectionist forces at work in the middle decades of that century. Several countries rejected patent protection because of its perceived adverse impact on innovation and commercial development.

The Netherlands abandoned an earlier patent protection scheme under the theory that any such protection was “an obstacle to the growth of industry”.³⁶ Without such protection, the Dutch could produce goods of equal quality at lower cost. The Swiss similarly eschewed patent protection during the early decades of the 19th century. By contrast, the United States granted patents to *inventors* while Great Britain granted patents to those who either invented new technology or *imported* foreign technology. This latter development was designed to maintain Britain’s perceived technological advantage from its Industrial Revolution.

In Britain, in its early stages, patent protection was actually conceived as helpful to the working man since “[i]nvention was regarded as the ‘legitimate occupation’ of the working man”.³⁷ Subsequent narratives emphasised the goal of rewarding inventive genius and the need to enable British companies to exploit fully their technological advances. Anti-patent narratives not only disputed these views, using the rhetoric of Empire, they couched their challenge in terms of the adverse effect of patents on British industrial growth:

³⁶ May and Sell, *Intellectual Property Rights* (2006), p.112.

³⁷ Maureen Coulter, *Property in Ideas: The Patent Question in Mid-Victorian Britain* (Missouri: Thomas Jefferson University Press, 1991), p.55.

“The abolitionists contended that patents for inventions obstructed the free flow of information, restricted adoption of new technology and slowed the pace of industrialization ... [J.E. Thorold] Rogers [an occasional Professor of Political Economy at Oxford] ... emphasized the obstructive potential of patents, likening the patentee to a squatter on the public domain, ‘squatt[ing] upon materials and powers which are the property, not of individuals, but of the human race.’ ... Most abolitionists were willing to concede that such artificial incentives [as patent protection] might have been necessary in pre-Industrial Britain ... [T]hey argued that patents had served their purpose and now could be safely disposed of.”³⁸

While the anti-patent movement arose in Britain in response to the adoption of statutory patent protection, that movement *was* the majority view in Germany. In fact, in 1863 several trade associations and chambers of commerce in Germany condemned patents of invention as “injurious to common welfare”.³⁹ Pro-patent proponents began in the minority as they sought to establish a patent regime during the 19th century. Interestingly, they turned British abolitionist arguments on their head. In the absence of patent protection, Germany had developed its domestic industries by imitating others people’s goods. In a memorandum in support of patent protection, Wiener Siemens argued that imitative German products had gained a poor reputation in the global market, leading to lost exports. To regain market share it needed to develop, not only quality products based on foreign inventions, but also completely new products based on German innovation. Socialist concerns also played a role in supporting patent protection as supporters relied on the potential patents offered workers to escape from poverty, thereby having a moderating social impact.

The inclusion of international standards for patenting that appeared in the 1883 Paris Convention can be seen as evidence of the failure of the anti-patent movement. This “failure”, however, was not as absolute as it appears at first blush. Unlike the TRIPS Agreement, established over a century later, the original Paris Convention did not obligate countries to protect inventions under patent. It merely required national treatment for those countries that chose to do so. Thus, for example, England declined to permit patents for chemicals in order to challenge Germany’s dominance until the early decades of the 20th century. Similarly, many countries eschewed patent protection for pharmaceuticals until the TRIPS Agreement obligated such protection.

For those countries that elected to provide patent protection, as noted above, the Paris Convention allowed countries to establish their own conditions and regulations governing such applications. Consequently, in England, where vestiges of the anti-patent movement remained strong, novelty requirements were often inconsistently applied in order to avoid abuses of what were perceived to be vestiges of royal privileges.⁴⁰

Some of the most popular methods used today to support local demands for greater access to intellectual property protected products reside in the territoriality of the Berne and Paris Conventions. Patent working obligations, which have been used by India, China and other countries, represent an early 19th century accommodation between the demands for the protection of innovative progress and the needs for local industry to practice the technologies of such progress. Similarly, local determinations of notoriety to determine the well-known status of foreign marks, and local rules governing the originality of useful works, such as computer software, remain tethered in domestic policies.

The failure of the anti-patent movement of the 19th century also provides critical lessons in crafting effective new geographies for 21st century intellectual property rights. Although many factors contributed to the eventual failure of the movement, one of the most significant factors was the 1873 financial crisis.

³⁸ Coulter, *Property in Ideas* (1991), pp.88–89.

³⁹ Fritz Machlup, *An Economic Review of the Patent System* (Washington: Subcommittee on Patents, Trademarks, and Copyrights, Senate Committee on the Judiciary, 1958), p.4.

⁴⁰ Zorina Khan, *The Democratization of Invention: Patents and Copyrights in American Economic Development, 1790–1920* (Cambridge: Cambridge University Press, 2005), pp.30–37.

It made the free trade needs that supported an absence of patent protection appear to be a failed policy.⁴¹ This perceived economic need for greater protection of local industry in the form of heightened patent protection was supported by the increasing number of technology expos that stressed the significance of innovation to progress. These expos also demonstrated that such progress was largely within the hands of large companies such as Siemens Co, The Edison Electric Co and Farbenfabriken vorm. Friedr. Bayer & Co. These companies were generally helmed by “myth-making inventors” such as Thomas Edison and Werner Siemens. These men fuelled the myth of the Heroic Inventor which in turn fueled the perceived need for patent protection to encourage such “heroic” efforts.⁴²

At the beginning of the 19th century, entities seeking strong patent protection were largely under-empowered. Yet by the end, with the creation of the Paris Convention, these entities had become powerful voices for strong patent protection. The history of their empowerment provides useful guidance on creating stronger access rights within the context of a geography-based rights paradigm. At its core, economics or perceived economic impact matters. The pro-patent forces aligned their message to meet the perceived economic realities of a post-1873 market. At the same time that countries were questioning the utility of “free trade”—one achieved without barriers such as patent protection—the pro-patent forces could offer their version of a legal regime that would provide the arguable incentives to strengthen local markets.

The presence of icons such as Thomas Edison, and the public relations strategy of technology expos that demonstrated the power of their inventions, also contributed to a strengthening narrative that supported patent protection. These narratives provided an acceptable public face of the “heroic” inventor whose future creativity on behalf of society’s needs could only be secured through the legal protection of their efforts.

Finally, although part of the narrative of patent protection as a social benefit—empowering inventive workers—was undoubtedly helpful, the successful emphasis by the pro-patent forces on the *economic* value of patents ultimately mustered the necessary support across a broad array of interests to support stronger patent protection. This would suggest that while access based on free speech and other non-economic social justice demands may provide a powerful philosophical background to access demands, a focus on the developmental benefits of such increased access may ultimately prove the more successful argument for securing such increased access.

Conclusion

Far from being an outdated paradigm, geography remains a potentially powerful basis for creating new intellectual property rights boundaries in the face of altered 21st century demands for greater public access. Among the leading countries for creating new domestic intellectual property laws that rebalance protection and access in light of the new demands of the 21st century are members of what I refer to as the “Developed South”. China, India, Brazil (among others of the “Developed South”) have created patent working obligations, local knowledge requirements for well-known marks, and traditional knowledge protections for local culture that demonstrate normative developments concerning future access. Yet these laws are not copies of one another. To the contrary, they represent a range of choices that are being adopted by other countries as the new normative bases for intellectual property protection. They are also among the strongest representations today that geography remains a powerful factor in crafting access-based norms for the 21st century. It may also remain a powerful paradigm for drawing the new boundaries for intellectual property rights today.

⁴¹ Markus Lang, “The Anti-Patent Movement Revisited: Institutional Change and Cognitive Frames in Nineteenth Century Germany”, available at http://ssrn.com/abstract_id=1695437 [Accessed October 22, 2014].

⁴² Long, “Exposing the Processes of Empire in the International Protection of Intellectual Property” in Halbert and Gallagher (eds), *Intellectual Property in Context: Law and Society Perspectives* (2014).

Patents, Innovation and Economic Geography

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Introduction

The relationship between patents and the geography of innovation is twofold. First, on a substantive level, the national patent laws and enforcement regimes, together with international treaties, affect international trade and countries' specialisations. This, in turn, affects the viability of imitation-based catch-up strategies by less developed countries as well as the flow of foreign direct investments—and, possibly, the migration of inventors and entrepreneurs.¹

Secondly, on a methodological level, patent data have been for long the main staple of quantitative research on the role played by innovation in shaping economic geography. Besides their longstanding use as innovation indicators, they have been increasingly exploited as a source of information on knowledge diffusion, and on inventors' mobility and networking.² In this role, they have contributed to improve the quality of research on a classic topic of economic geography, namely the role of innovation in determining the rise and fall of industrial clusters and, more generally, the spatial distribution of productive activities. A core issue within this research program concerns the public vs private good nature of new technical knowledge (or, to put it otherwise, the existence of knowledge externalities), as well as the relative role of physical distance, labour mobility and licensing in making such knowledge available to third parties.³

The two levels, substantive and methodological, increasingly overlap. The social scientists who first made use of patent data for research on economic geography had a limited grasp of the nuances of patent legislation, and even less so of procedures leading from the application to the grant or refusal of patents (let alone amendment or litigation). This limited their understanding of how such features of patent data may affect the potential and limitations of the latter. It was research on the economic efficiency of national

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¹ A. Agrawal, "Diaspora Networks, Knowledge Flows and Brain Drain" (2014) World Intellectual Property Organization, Economic Research Working Paper No.15.

² S. Breschi and F. Lissoni, "Knowledge Networks from Patent Data" in H.F. Moed, W. Glänzel and U. Schmoch (eds), *Handbook of Quantitative Science and Technology Research* (Dordrecht : Kluwer Academic Publishers, 2005), pp.613–643; Z. Griliches, "Patent Statistics as Economic Indicators: A Survey" (1990) 28 J. Econ. Literature 1661; S. Nagaoka, K. Motohashi and A. Goto, "Patent Statistics as an Innovation Indicator" in Bronwyn H. Hall and Nathan Rosenberg (eds), *Handbook of the Economics of Innovation* (Amsterdam: North Holland, 2010), Vol.2, pp.1083–1127.

³ S. Breschi and F. Lissoni, "Knowledge Spillovers and Local Innovation Systems: A Critical Survey" (2001) 10 *Industrial and Corporate Change* 975.

patent systems and firms' patenting strategies that spread awareness in this direction and contributed to increase data quality.⁴

In this article, we mainly focus on the methodological link, that is, what 20 years of patent-based research has taught us on the role of innovation in shaping economic geography. We know now that the importance initially attributed to knowledge externalities as an agglomeration factor was certainly excessive. Localised knowledge flows exist, and explain agglomeration, but they are largely mediated by the labour market and markets for technologies. Besides, we know now that physical distance may affect knowledge diffusion, but so do social distance between inventors as well as inter- and intra-national borders. We also witness an ongoing widening focus, from local/regional to international, with migration issues coming to the forefront. These trends owe, among other things, to the increasing availability and sophistication of data. This has been made possible by the interplay of institutional support and bottom-up initiatives by applied researchers.

In the remainder of the article, we will first summarise the key theoretical issues concerning the relationship between innovation and geography. We will then move on to examine how patent data have been exploited to explore such issues, and on perspective uses for future research. Finally, we will describe some state-of-the-art datasets whose production and sharing owe to the interaction between scholars and institutions.

Innovation and economic geography: The role of knowledge diffusion in space

Research in economic geography investigates the reasons why particular economic activities choose to establish themselves in particular places and the role of agglomeration forces in generating an uneven distribution of economic activity across space. Ultimately, this wide discipline seeks to explain the observed disparities in economic growth rates and development across cities and geographical areas.⁵ These issues made it into mainstream economics, primarily thanks to the work of the 2008 Nobel Laureate Paul Krugman.⁶ Although with variations, three agglomeration forces are generally put forward—as first formulated by Alfred Marshall⁷ and later revisited by Krugman:

1. Labour market pooling:

specialised, i.e. industry-specific workers prefer locating close to agglomerated firms rather than isolated ones, as this constitutes an insurance against firm-specific labour demand shocks, while ensuring at the same time relatively lower local wages that attract more firms.

2. Market for intermediate inputs:

producers of industry-specific intermediate inputs tend to agglomerate in order to benefit from scale economies and low transport costs.

⁴ J. Bessen and M.J. Meurer, *Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk* (Princeton: Princeton University Press, 2008); D. Guellec and B. van Pottelsberghe de la Potterie, *The Economics of the European Patent System* (Oxford: Oxford University Press, 2007); A.B. Jaffe and J. Lerner, *Innovation and Its Discontents: How Our Broken Patent System Is Endangering Innovation and Progress, and What to Do about It* (Princeton: Princeton University Press, 2011).

⁵ World Bank, *World Development Report: Reshaping Economic Geography* (Washington, 2009).

⁶ P. Krugman, "The New Economic Geography, Now Middle-aged" (2010) 45 *Regional Stud.* 1; P. Krugman, "Increasing Returns and Economic Geography" (1991) 99 *J. Pol. Econ.* 483. On the broad field of economic geography, two recent books for non-specialists are E. Glaeser, *Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier and Happier* (New York: Penguin Press, 2011) and E. Moretti, *The New Geography of Jobs* (Boston: Houghton Mifflin Harcourt, 2012). Other recent scholarly oriented handbooks include G.L. Clark, M.S. Gertler and M.P. Feldman, *The Oxford Handbook of Economic Geography* (Oxford: Oxford University Press, 2003); P.-P. Combes, T. Mayer and J.-F. Thisse, *Economic Geography: The Integration of Regions and Nations* (Princeton: Princeton University Press, 2008) and R. Boschma and R. Martin, *The Handbook of Evolutionary Economic Geography* (Cheltenham: Edward Elgar Publishing, 2010).

⁷ A. Marshall, *Principles of Economics: An Introductory Volume* (New York: Macmillan, 1948).

3. Technological externalities:

physical proximity between firms favours intra-industry knowledge “spillovers”, i.e. unintentional flow of information. A firm’s invention is more quickly imitated by other local firms than by distant ones, making agglomerated firms more innovative than isolated ones.

In this framework, Edward Glaeser and co-authors point out that, if geographical proximity facilitates the transmission of ideas, it is expected that knowledge spillovers will be particularly important in cities.⁸ Glaeser’s contributions rescue economic historians’ ideas that most innovations are made in cities. In particular, Jane Jacobs stressed that, while a critical feature of Marshallian knowledge externalities is that they are intra-industry, the crucial type of externality comes from the cross-fertilisation of ideas across different industries (inter-industry externalities).⁹ This makes knowledge externalities particularly abundant in diversified cities and metropolitan areas, where the environment favours the rapid inter-personal diffusion of ideas.

After more than 20 years of empirical research, evidence in favour of one or the other type of externalities is, at best, mixed. Some scholars argue that Marshallian and Jacobs externalities are not mutually exclusive phenomena and that, possibly, they co-exist in large cities and metropolitan areas.¹⁰ Others argue that there might be other externalities capable to explain city specialisation without relying on knowledge spillovers, e.g. sharing of inputs, including specialised labour.¹¹ Thus, going back to Marshallian externalities, one can distinguish between pecuniary externalities, i.e. 1 and 2, and non-pecuniary, or pure, externalities, i.e. number 3.¹² Precisely because of this dichotomy, the rediscovery of economic geography by mainstream economics started by Krugman went initially along with a heated debate on the role of technological externalities. The debate focused on three issues:

- (1) the measurability of knowledge spillovers, as opposed to pecuniary externalities;
- (2) the relative weight of knowledge externalities with respect to other forms of (market-mediated) knowledge flows; and
- (3) the theoretical reasons for presuming knowledge flows, externalities in particular, to be bound in space.

Pure vs pecuniary externalities

Although originally disregarded by mainstream urban and regional economists, pure knowledge externalities were the cornerstone of innovation and geography studies by non-mainstream industrial economists, regional economists and other social scientists during the 1970s and the 1980s. This line of research, however, did not provide either systematic attempts to theoretically formalise the role of knowledge spillovers or the measurement efforts or intentions to disentangle knowledge externalities from other forms of externalities. Rather, its contributors went for producing several conceptual explanations for the presence of knowledge externalities in both low- and high-tech sectors. Such explanations ranged from local cultural

⁸ E.L. Glaeser, H.D. Kallal, J.A. Scheinkman and A. Shleifer, “Growth in Cities” (1992) 100 J. Pol. Econ. 1126.

⁹ J. Jacobs, *Economy of Cities* (New York: Random House, 1969).

¹⁰ S.E. Ibrahim, M.H. Fallah and R.R. Reilly, “Localized Sources of Knowledge and the Effect of Knowledge Spillovers: An Empirical Study of Inventors in the Telecommunications Industry” (2009) 9 J Econ. Geography 405.

¹¹ Glaeser, Kallal, Scheinkman and Shleifer, “Growth in Cities” (1992) 100 J. Pol. Econ. 1126.

¹² The distinction was first posited by Tibor Scitovsky, who described “pecuniary externalities” as all benefits accruing from other firms’ activities, mediated by markets and the price system and “pure externalities” as benefits also accruing from other firms’ activities, but not mediated by market mechanisms. T. Scitovsky, “Two Concepts of External Economies” (1954) 62 J. Pol. Econ. 143.

traits (e.g. trust attitudes) to dedicated institutions (professional schools, universities, and bridging institutions) to historical and cultural vestiges, or loosely defined social networks.¹³

Meanwhile, mainstream economists contrarily argued that knowledge externalities ought not to be put at the centre of analysis; being unmeasurable, they made all related propositions untestable. Krugman's original standing on this point was clear:

“[K]nowledge flows are invisible; they leave no paper trail by which they may be measured and tracked, and there is nothing to prevent the theorist from assuming anything about them that she likes. So while I am sure that true technological spillovers play an important role in the localization of some industries, one should not assume that this is the typical reason—even in the high technology industries themselves. A sociologist might ... help with survey methods; but I would like [to use] economic analysis before turning to other social sciences”.¹⁴

This was too big a challenge not to be seized by applied economists and econometricians. In the 30 years that followed, many ways were found to measure and track spillovers. Some consisted in large survey methods, now turned into part of the economists' toolbox. Others relied on sophisticated econometric methods to infer externalities from specific correlations (e.g. spatial econometrics). Finally, several more were based on patent citations as a proxy for knowledge spillovers.

Knowledge flows or knowledge spillovers?

Another highly debated topic concerned the specific role of knowledge externalities with respect to other forms of (market-mediated) knowledge flows as agglomeration forces. Economists have long understood the precise meaning of knowledge spillovers. As Grossman and Helpman put it, by knowledge spillovers

“we mean that (1) firms can acquire information created by others without paying for that information in a market transaction, and (2) the creators (or current owners) of the information have no effective recourse, under prevailing laws, if other firms utilize information so acquired”.¹⁵

In spite of this unequivocal definition, the related literature has often associated knowledge spillovers with any means of diffusion of knowledge and ideas. Under a more careful inspection, however, what have been considered to be pure externalities may turn to be knowledge flows arising from market transactions.¹⁶ Although knowledge diffusion may exist and may be critical to combine and recombine previously unconnected ideas, leading to new knowledge production and subsequent innovations, there is no a priori reason to assume that it does in the form of a pure externality: technology licensing, labour mobility, collaborations and spin-offs may all have a role, possibly in association with some form of pecuniary externality, but also independently.

The geographical breath of knowledge flows

A key element of the knowledge spillovers explanation of agglomeration concerns the geographical reach of spillovers. A necessary assumption is that spillovers are subject to a strong spatial decay, thus being accessible only at short distances. This in turn requires assuming that *tacit* knowledge—as opposed to *information*—plays an important role both in high-tech and low-tech industries. Knowledge is tacit to the extent that it escapes full codification in patents, articles or books. As such, effective knowledge exchanges

¹³ Two classic examples from this literature are: S. Brusco, “The Emilian Model: Productive Decentralisation and Social Integration” (1982) Cambridge J. Econ. 167; A. Saxenian, *Regional Advantage: Culture and Competition in Silicon Valley and Route 128* (Cambridge, MA: Harvard University Press, 1994). For a survey, see A.J. Scott, “Economic Geography: The Great Half-century” (2000) 24 Cambridge J. Econ. 483.

¹⁴ P. Krugman, *Geography and Trade* (Cambridge, MA: MIT Press, 1991), p.54.

¹⁵ G. Grossman and E. Helpman, *Innovation and Growth in the Global Economy* (Cambridge, MA: MIT Press, 1993), p.16.

¹⁶ P.A. Geroski, “What Do We Know about Entry?” (1995) 13 Int'l J. Indus. Org. 421.

require face-to-face interactions, frequent meetings and the formation of social capital.¹⁷ Accordingly, the concept of localised knowledge spillovers (LKS) has become a cornerstone of the geography of innovation literature.

However, several scholars have found that the market-based mechanisms listed above are also likely to produce some highly localised patterns of knowledge diffusion. This is not to deny the importance of geography. Spatial proximity reduces the cost of trading knowledge in the marketplace and makes possible the flow of ideas, while at the same time fosters trust and mutual understanding between agents, facilitating again the exchange of knowledge via market mechanisms.

Patents as indicators and economic geography

Localised knowledge spillovers: Measurement and estimation issues

Among other things, patent documents contain information on the applicants and inventors, including their geographical origin—down to the level of street addresses. This information has allowed researchers to geo-localise, in an increasingly sophisticated way, inventive activity. It also allowed researchers to investigate spatial differences in knowledge production, as a function of several inputs such as regional R&D expenditures as well as other regional features (which we will discuss below). In parallel, Jaffe and co-authors challenged Krugman's statement on the invisibility of knowledge spillovers by arguing that "knowledge flows do sometimes leave a paper trail, in the form of citations in patents".¹⁸

Patent (or prior art) citations can be found on the search reports filed by inventors and/or produced by patent examiners. They have been assumed to hide, along with lots of statistical noise, some knowledge debt running from the citing to the cited inventors. (Similarly, one can look for a debt from citing inventors to scientists by checking the citations to the non-patent literature, also found in search reports.) By comparing the geographical location of the inventors (or the applicants) of the cited and the citing patents, Jaffe and co-authors then proposed the first test of the geographic localisation of spillovers. Their classic methodology consists in taking a sample of cited patent-citing patent pairs (excluding self-citations at the firm level) and comparing them with a control sample, in which the citing patents are replaced with patents with the same application year and technological field, but with no citation links to the cited pair members. By comparing the rate of co-location (at the city or state level) of the cited-citing pairs to that of the cited-control pairs, and finding the former to be higher than the latter, Jaffe and co-authors showed that citations tend to concentrate in space high and above what one would expect by simply looking at the geographical distribution of patents based on technology.

Despite some methodological reservations raised by Thompson and M. Fox-Kean,¹⁹ Jaffe et al.'s methodology has become the basis of the patent-based geography of innovation literature. Follow-up research has concentrated on disentangling how different dimensions of geographical distance affect knowledge diffusion, as well as on questioning Jaffe et al.'s original interpretation of their evidence. In all cases, patent data have proven to be extremely valuable sources of information.

Concerning distance, Jaffe et al. treated it as a binary variable, simply focusing on whether patent citations occur mostly within states or metropolitan areas, irrespective of the relative geo-localised position of the patents. Quite recently, Murata et al. go beyond this limitation by developing a physical distance-based

¹⁷ D.B. Audretsch and M.P. Feldman, "R&D Spillovers and the Geography of Innovation and Production" (1996) 86 Am. Econ. Rev. 630; M.P. Feldman and D.B. Audretsch, "Innovation in Cities: Science-Based Diversity, Specialization and Localized Competition" (1999) 43 Eur. Econ. Rev. 409; P. Martin and G.I.P. Ottaviano, "Growing Locations: Industry Location in a Model of Endogenous Growth" (1999) 43 Eur. Econ. Rev. 281.

¹⁸ A.B. Jaffe, M. Trajtenberg and R. Henderson, "Geographic Localization of Knowledge Spillovers as Evidenced by Patent Citations" (1993) 108 Q.J. Econ. 577, 578.

¹⁹ P. Thompson and M. Fox-Kean, "Patent Citations and the Geography of Knowledge Spillovers: A Reassessment" (2005) 95 Am. Econ. Rev. 450.

test able to capture cross-boundary, spatially close knowledge spillovers.²⁰ They find that simple, continuous geographical distance also matters, even when building the control sample at a finer technological aggregation. At the same time, Singh and Marx show that physical distance and administrative borders play independent roles as obstacles to knowledge diffusion, both of them being significant when inserted in an exercise *à la* Jaffe et al.²¹ Belenzon and Schankerman, who concentrate their attention on university-industry knowledge spillovers, arrive to similar conclusions.²² They show that citations to patents filed by US universities at the US Patent and Trademark Office (USPTO) decline sharply with distance from the universities and are strongly constrained by state borders.

The main reason for looking at patent citations as useful “flow” indicators resides in the belief that invention is a cumulative and social process and that patent documents do not fully disclose the knowledge contents of inventions. Thus, many bits of knowledge that are necessary to exploit or improve upon the patented inventions need to be passed on by practical demonstrations, clarification of terminology through examples and metaphors, debugging of codified messages, and so forth. All of these activities require personal interactions between inventors (of citing and cited patents), which are favoured by geographical proximity.

In this respect, critics of the use of patent citations point out that patent examiners, rather than inventors, are ultimately responsible for many if not all the citations attached to patent documents, depending on patent offices’ practices. Even when citations track down effectively some sort of knowledge flow, it remains to be discussed whether the latter runs between the inventors of the cited and the citing patent (inter-personal knowledge flow)—or, more simply, between the cited patent and the inventor who cites it, such as when the inventor retrieves patent information directly from a database (direct retrieval).²³

While the jury is still out on deciding on whether patent citations are good proxies for knowledge flows, patents have also been increasingly exploited for the information they provide on inventors. Inventors are an important class of knowledge workers, especially in sectors where R&D is a key innovation input. Thanks to patent-based information on their home or work address, as well as on the identity of the assignees of their patents, they can be tracked down, contacted and asked directly relevant questions. Two examples of this survey-based research on inventors are:

- (1) the PatVal-EU survey, which surveyed the inventors of 9,017 European Patent Office (EPO) applications with priority date 1993–1997 from Denmark, France, Germany, Hungary, Italy, Netherlands, Spain and the United Kingdom²⁴;
- (2) the RIETI-Georgia Tech inventor survey, which collects questionnaires from a sample of US and Japanese inventors of triadic patents, including 1,900 inventors from the United States and 3,600 from Japan.²⁵

Giuri and Mariani have relied on the PatVal-EU questionnaire to investigate the role of education as a meeting factor in the relationship between geography and spillovers.²⁶ They find that inventors with higher

²⁰ Y. Murata, R. Nakajima, R. Okamoto and R. Tamura, “Localized Knowledge Spillovers and Patent Citations: A Distance-Based Approach” *Rev. Econ. & Stat.* (forthcoming).

²¹ J. Singh and M. Marx, “Geographic Constraints on Knowledge Spillovers: Political Borders vs. Spatial Proximity” (2013) 59 *Mgmt. Sci.* 2056.

²² S. Belenzon and M. Schankerman, “Spreading the Word: Geography, Policy, and Knowledge Spillovers” (2013) 95 *Rev. Econ. & Stat.* 884.

²³ Several papers have shown that a large proportion of patent citations are added by the examiners, and not by the inventors or applicants: see J. Alcácer and M. Gittelman, “Patent Citations as a Measure of Knowledge Flows: The Influence of Examiner Citations” (2006) 88 *Rev. Econ. & Stat.* 774 (around 40% for the USPTO and 93% for the European Patent Office). Other studies also find that the usefulness of patent citations as a measure of knowledge flows varies greatly across technologies and geographical areas: see E. Duguet and M. MacGarvie, “How Well Do Patent Citations Measure Flows of Technology? Evidence from French Innovation Surveys” (2005) 14 *Econ. Innovation & New Tech.* 375.

²⁴ P. Giuri, M. Mariani, S. Brusoni, G. Crespi, D. Francoz, A. Gambardella, W. Garcia-Fontes, A. Geuna, R. Gonzales, D. Harhoff, K. Hoisl, C. Le Bas, A. Luzzi, L. Magazzini, L. Nesta, Ö. Nomaler, N. Palomerias, P. Patel, M. Romanelli and B. Verspagen, “Inventors and Invention Processes in Europe: Results from the PatVal-EU Survey” (2007) 34 *Res. Pol’y* 1107.

²⁵ J.P. Walsh and S. Nagaoka, “Who Invents?: Evidence from the Japan-U.S. Inventor Survey” (2009) Research Institute of Economy, Trade and Industry, Discussion Paper No.09-E-034.

²⁶ P. Giuri and M. Mariani, “When Distance Disappears: Inventors, Education, and the Locus of Knowledge Spillovers” (2013) 95 *Rev. Econ. & Stat.* 449.

education degrees tend to access more distant knowledge sources than less educated ones, even after taking into consideration their higher capability to absorb knowledge in general.

Another strand of literature has studied LKS by looking at the spatial distribution of patents, at the level of geographical units such as states, regions or metropolitan areas, based upon a regional knowledge production function (KPF) approach. Jaffe's pioneering paper models the spatial distribution of corporate patents across US states and broad technological areas as a function of the states' public and private R&D expenditure.²⁷ It is shown that the number of corporate patents is positively affected by the R&D performed by local universities, after controlling for private R&D inputs. Albeit in the absence of explicit modelling or testing, Jaffe interprets these results as further support to the existence of LKS, which in this case would run from academic research to corporate innovative activities. This evidence has been confirmed by subsequent studies.²⁸

An important extension of the regional KPF approach makes use of spatial econometrics, in order to take into account cross-border effects in a KPF. Anselin et al. show that university research of one particular region has a positive impact on regional rates of innovation of nearby or contiguous regions; in the case of the United States, this effect extends over a range of 75 miles from the knowledge source.²⁹ Similarly, for Europe, Bottazzi and Peri show that regional patent intensities are affected not only by local R&D expenditures, but also from R&D conducted in other regions, up to a range of 300km.³⁰

In the same vein, the 2000s have seen an increasing number of contributions modelling the patent intensity of regions as a function of the patent production per capita of other regions. Based on ad hoc matrices describing the relationships between geographical units (distance, common borders etc.), this literature has consistently found a strong co-occurrence of high values of patent intensity in one region with high values of patent intensity in nearby ones. This has been interpreted, again, as evidence of LKS.³¹

Within this macro tradition, a number of scholars have focused on the role of dense, large and diverse cities in fostering innovation outcomes. These contributions take on board Jane Jacobs' emphasis on the prevailing role of urban diversity for knowledge spillovers. They also give answer to the evidence found on the disproportionate production of patents in metropolitan areas. For example, Chatterji et al. reports that during the 1990s, 92 per cent of patents were granted to residents of metropolitan areas in the United States, while only three-quarters of the US population resided in these areas.³²

Econometric evidence in this direction is provided by Gerald Carlino, who model the rate of patenting per capita as a function of the urban features of metropolitan areas, such as urban size or population density.³³ Again, this approach does not directly look at knowledge spillovers, but it builds on the assumption that the concentration of employment in cities is explained by the inventors' need to access tacit knowledge.

²⁷ A.B. Jaffe, "Real Effects of Academic Research" (1989) 79 Am. Econ. Rev. 957.

²⁸ Z.J. Acs, D.B. Audretsch and M.P. Feldman, "R&D Spillovers and Recipient Firm Size" (1994) 76 Rev. Econ. & Stat. 336; Audretsch and Feldman, "R&D Spillovers and the Geography of Innovation and Production" (1996) 86 Am. Econ. Rev. 630; Feldman and Audretsch, "Innovation in Cities: Science-Based Diversity, Specialization and Localized Competition" (1999) 43 Eur. Econ. Rev. 409.

²⁹ L. Anselin, A. Varga and Z. Acs, "Local Geographic Spillovers between University Research and High Technology Innovations" (1997) 42 J. Urban Econ. 422.

³⁰ L. Bottazzi and G. Peri, "Innovation and Spillovers in Regions: Evidence from European Patent Data" (2003) 47 Eur. Econ. Rev. 687. NUTS is the French acronym for "*Nomenclature d'Unités Territoriales Statistiques*", and it is the European standard for referencing the subdivision of countries for statistical purposes.

³¹ e.g. C. Autant-Bernard and J.P. LeSage, "Quantifying Knowledge Spillovers Using Spatial Econometric Models" (2011) 51 J. Regional Sci. 471.

³² A. Chatterji, E.L. Glaeser and W.R. Kerr, "Clusters of Entrepreneurship and Innovation" (2013) National Bureau of Economic Research, Working Paper No.19013.

³³ G.A. Carlino, S. Chatterjee and R.M. Hunt, "Urban Density and the Rate of Invention" (2007) 61 J. Urban Econ. 389; G.A. Carlino and R.M. Hunt, "What Explains the Quantity and Quality of Local Inventive Activity?" (2009) Federal Reserve Bank of Philadelphia, Working Paper No.09-12.

Labour mobility, networks and economic geography

Economists have long shared the view that inter-firm mobility of skilled employees transmits knowledge across organisations.³⁴ Patent data provide a means to test this classic hypothesis and to test to what extent it can explain the observed concentration of knowledge flow in space.

A pioneering study in this sense is due to Almeida and Kogut, who show that inter-firm mobility of inventors in the US semiconductor industry influences the local transfer of knowledge across firms.³⁵ This suggests that knowledge externalities go along with mobility within spatially defined labour markets. Breschi and Lissoni extend Jaffe et al.'s classic approach by considering not only the role of spatial distance between inventors, but also that of social distance.³⁶ They show that the mobility of inventors across firms occurs largely within the same locations, and many citations occurring between companies are in fact personal self-citations by mobile inventors. The same inventors, by joining different teams, end up building a localised collaboration network that largely explains the observed spatial patterns of citations flows (social distance between any two inventors can be measured by the number of collaboration ties that separate them).³⁷ These findings are confirmed by Miguelez and Moreno, who study the determinants of cross-regional mobility of inventors of EPO applications for a sample of European countries.³⁸ By tracking cross-regional movements of inventors, the authors find both descriptive and analytical evidence on the critical role of spatial distance and country borders in hampering the mobility of this specific class of knowledge workers.

Mobile inventors do not only transfer knowledge from their original location to their destinations, but also allow for the opposite flows, thanks again to social networks. Agrawal et al. find that citations to mobile inventors' patents filed after their transfer from one city to another come disproportionately from their prior locations.³⁹

However, not all inventors who appear to have signed patents for different assignees can be treated as mobile, in the sense of having worked for different employers. Many of them may be freelance inventors or inventors working for non-practicing entities (such as universities), who either sell their inventions as part of research contracts or sell the patents they have filed to other companies.⁴⁰ While inventors moving across companies may generate spillovers (to the extent that they spread knowledge from one company to another, without any compensation for the former), those who sell their inventions operate on a market for technologies, which may generate some pecuniary externalities, and yet treat knowledge as an entirely private good.

³⁴ K.J. Arrow, "The Economic Implications of Learning by Doing" (1962) 29 Rev. Econ. & Stat. 155. For some contrary evidence, see M. Maliranta, P. Mohnen and P. Rouvinen, "Is Inter-Firm Labor Mobility a Channel of Knowledge Spillovers? Evidence from a Linked Employer-Employee Panel" (2009) 18 *Industrial and Corporate Change* 1161; J. Møen, "Is Mobility of Technical Personnel a Source of R&D Spillovers?" (2005) 23 *J. Labor Econ.* 81.

³⁵ P. Almeida and B. Kogut, "Localization of Knowledge and the Mobility of Engineers in Regional Networks" (1999) 45 *Mgmt. Sci.* 905.

³⁶ S. Breschi and F. Lissoni, "Mobility of Skilled Workers and Co-Invention Networks: An Anatomy of Localized Knowledge Flows" (2009) 9 *J. Econ. Geography* 439.

³⁷ Important contributions on the role of social networks (patent co-inventorships) to explain localised citations flows are due to, for example, J. Singh, "Collaborative Networks as Determinants of Knowledge Diffusion Patterns" (2005) 51 *Mgmt. Sci.* 756, who uses data from the USPTO and finds strong evidence that the existence of interpersonal ties in the form of co-patents increases the probability of knowledge flows, as measured by patent citations. In particular, he finds that these ties are critical to explaining knowledge flows within regions and within firms' boundaries, as opposed to inter-regional and inter-organisational flows. In his view, geography matters only because interpersonal networks tend to be regional in nature. Along these same lines, S. Breschi and F. Lissoni, "'Cross-Firm' Inventors and Social Networks: Localized Knowledge Spillovers Revisited" (2005) *Annales d'Economie et de Statistique* 189, mine a data set of over 30,000 EPO patent applications by Italian inventors as a source of relational data. They find that the original Jaffe et al. results hold only for patents whose inventors are socially connected and that short social distances greatly enhances the probability to observe co-location between cited and citing patents. This is taken as evidence that geographical proximity is not a sufficient condition for accessing spillovers, as long as they circulate only within tightly knitted social networks.

³⁸ E. Miguelez and R. Moreno, "What Attracts Knowledge Workers? The Role of Space and Social Networks" (2014) 54 *J. Regional Sci.* 33.

³⁹ A. Agrawal, I. Cockburn and J. McHale, "Gone but not Forgotten: Knowledge Flows, Labor Mobility, and Enduring Social Relationships" (2006) 6 *J. Econ. Geography* 571.

⁴⁰ On the importance of company-assigned academic patents, see F. Lissoni, "Academic Patenting in Europe: An Overview of Recent Research and New Perspectives" (2012) 34 *World Patent Info.* 197. On the quantitative relevance of change of property in patents, see C.J. Serrano, "The Dynamics of the Transfer and Renewal of Patents" (2010) 41 *RAND J. Econ.* 686.

Following this lead, some scholars have studied the geographical reach of patent licensing activities, especially by universities. University licensing terms may be extremely complex and very often involve the inventors themselves as licensees, or as shareholders of the licensee firm. This is because most of the university patents protect early prototypes and “proofs of concept” that need much further development, which in turn call for the direct involvement of the inventors.⁴¹ In all of these cases, we may expect to observe a good deal of knowledge being transferred from university inventors to industrial researchers within companies, which we can hardly classify as a spillover. At the same time, as long as the university inventors retain their academic positions, but are consulted frequently by the licensee company, those knowledge flows will remain highly bounded in space. This is especially the case with contracts that bundle the provision of complementary tacit and codified knowledge, as when technical assistance and training is provided along with the patent licence.⁴²

Evidence in this latter direction is provided by Mowery and Ziedonis, who observe that the Jaffe et al.’s test did not control for the possibility that many cited-citing patent couples hide a licensing link, as when a licensee builds upon (and cites) the licensed patent to produce an invention of his own.⁴³ They examine over 14,000 patents granted over many years to Columbia University, the University of California and Stanford University, for which they calculate both the number of licences granted to companies from 50 large metropolitan areas and the number of citations coming from the same areas (excluding citations from the licensees). Separate regressions of the two dependent variables over the distance between universities and metropolitan areas, plus a wide range of controls, show that distance takes a higher toll on licences than citations and conclude that spillovers are less localised than knowledge flows mediated by licences.

Future research

Despite the large amount of patent-based research in economic geography produced over the last 20 years, many questions remain open.

One emerging topic at the crossroads of economic geography and the economics of intellectual property is that of inventors’ migration, where inventors are considered both as a representative sample of highly skilled workers and as a special category among the latter, one whose migration choices is affected by the relative strength of IP rights in different countries.

The economic analysis of inventor migration relates to geography on a substantive level. First, recent research has shown that skilled migration, in particular of scientists and engineers, is the most dynamic component of total migration worldwide. At the same time, the geographical distribution of skilled migrants within host countries is very uneven, with large cities attracting most of them.⁴⁴ Last but not least, a consensus exists on the importance of skilled immigrants to science and technology progress in their host countries.⁴⁵ These three factors combined suggest that migrant scientists and engineers (including inventors) may significantly affect the spatial distribution of innovation production and, ultimately, the economic growth differentials across regions.

⁴¹ R. Jensen and M. Thursby, “Proofs and Prototypes for Sale: The Licensing of University Inventions” (2001) 91 *Am. Econ. Rev.* 240; J. Colyvas, M. Crow, A. Gelijns, R. Mazzoleni, R.R. Nelson, N. Rosenberg and B.N. Sampat, “How Do University Inventions Get into Practice?” (2002) 48 *Mgmt. Sci.* 61.

⁴² A. Arora, “Contracting for Tacit Knowledge: The Provision of Technical Services in Technology Licensing Contracts” (1996) 50 *J. Dev. Econ.* 233. See also G.A. Crespi, A. Geuna and L. Nesta, “The Mobility of University Inventors in Europe” (2007) 32 *J. Tech. Transfer* 195, who find that the hiring of a university inventor enables the employer to access her tacit knowledge.

⁴³ D.C. Mowery and A.A. Ziedonis, “The Geographic Reach of Market and Non-Market Channels of Technology Transfer: Comparing Citations and Licenses of University Patents” (2001) National Bureau of Economic Research, Working Paper No.8568.

⁴⁴ W.R. Kerr, “The Agglomeration of US Ethnic Inventors” (2010) *Agglomeration Econ.* 237; M. Nathan, “Ethnic Inventors, Diversity and Innovation in the UK: Evidence from Patents Microdata” (2011) Spatial Economics Research Centre, London School of Economics and Political Science, Discussion Paper 0092.

⁴⁵ P.E. Stephan and S.G. Levin, “Exceptional Contributions to US Science by the Foreign-Born and Foreign-Educated” (2001) 20 *Population Res. & Pol’y Rev.* 59.

Secondly, some studies seem to suggest that geographical innovation clusters have become more and more interconnected and that, while geographical proximity is critical for innovation, opportunities for learning by interacting also exist beyond clusters' boundaries.⁴⁶ One such extra-cluster interactions across countries are high-skilled migration and business travels back and forth from Bangalore to Silicon Valley.⁴⁷ Economists and other social scientists are at present investigating to what extent these interactions may allow for knowledge transfer from immigrants' host countries to their countries of origin, thus compensating for the latter's loss of skilled workers (brain drain).

Patent and inventor data are increasingly exploited in this sense. In particular, Agrawal et al. and Kerr look at the relation between ethnic inventors in the United States and knowledge flows back to the ethnic inventors' country of origin, finding relatively weak evidence of a positive relation between the two—stronger for the most valuable innovations and for certain technological fields and ethnic groups.⁴⁸ At the same time, Foley and Kerr and Miguelez find stronger effects on the relationship between inventor diasporas and the formation of international co-inventorship teams.⁴⁹ However, empirical evidence is still scarce and generally focused on a limited number of sending and receiving countries.

Information on migration can be extracted from patent data in three ways. A basic approach consists in tracking inventors' international mobility by following their patenting histories across different countries.⁵⁰ This approach suffices to study in- and out-flows of one single country (e.g. the United States), although it is not the most appropriate methodology to depict the whole picture of inventor migration flows across several countries. For example, one could apparently observe many inventors migrating from the United States to China or India when they are actually returnee inventors who applied for their first patent while studying or working in the United States and then applied for the following ones after having come back to their home countries.

A second approach consists in combining inventor-based data with extensive information on the ethnic origin of names and surnames from official registers. A pioneering strategy in this direction is provided by Kerr, who combines inventor data (name and surname) from the USPTO with the Melissa ethnic-name database, a commercial repository of names and surnames of US residents, classified by likely country of origin.⁵¹ More recently, Breschi et al. have built on the same approach by experimenting with the IBM-GNR system, a commercial product which associates a list of names and surnames to a likely country of origin.⁵²

A third approach consists in collecting information on the nationality of their inventors. This has been made possible by the World Intellectual Property Organization (WIPO), which has released a dataset of inventors listed in Patent Cooperation Treaty (PCT) applications containing not only the inventors' country of residence, but also their nationality.⁵³ Contrary to the methods documented above, this dataset has the advantage that makes it unnecessary to perform complicated, and necessarily imperfect, algorithms in order to ascertain the likely origin of inventors. Moreover, it includes a very large number of sending and receiving countries. Unfortunately, it also comes with some limitations, such as the fact that the numbers

⁴⁶ M. Gittelman, "Does Geography Matter for Science-Based Firms? Epistemic Communities and the Geography of Research and Patenting in Biotechnology" (2007) 18 *Org. Sci.* 724; J. Owen-Smith and W.W. Powell, "Knowledge Networks as Channels and Conduits: The Effects of Spillovers in the Boston Biotechnology Community" (2004) 15 *Org. Sci.* 5.

⁴⁷ A. Saxenian, *The New Argonauts: Regional Advantage in a Global Economy* (Cambridge, MA: Harvard University Press, 2006).

⁴⁸ A. Agrawal, D. Kapur, J. McHale and A. Oettl, "Brain Drain or Brain Bank? The Impact of Skilled Emigration on Poor-Country Innovation" (2011) 69 *J. Urban Econ.* 43; W.R. Kerr, "Ethnic Scientific Communities and International Technology Diffusion" (2008) 90 *Rev. Econ. & Stat.* 518.

⁴⁹ C.F. Foley and W.R. Kerr, "Ethnic Innovation and U.S. Multinational Firm Activity" (2013) 59 *Mgmt. Sci.* 1529; E. Miguelez, "Inventor Diasporas and the Internationalization of Technology" (2014) *Cahiers du GREThA*, No.2014-12.

⁵⁰ A. Oettl and A. Agrawal, "International Labor Mobility and Knowledge Flow Externalities" (2008) 39 *J. Int'l Bus. Stud.* 1242.

⁵¹ W.R. Kerr, "The Ethnic Composition of US Inventors" (2007) Harvard Business School, Working Paper No.08-006.

⁵² S. Breschi, F. Lissoni and G. Tarasconi, "Inventor Data for Research on Migration and Innovation: A Survey and a Pilot" (2014) World Intellectual Property Organization, Economic Research Working Paper No.17.

⁵³ E. Miguelez and C. Fink, "Measuring the International Mobility of Inventors: A New Database" (2013) World Intellectual Property Organization, Economic Research Working Papers No.08. For an early and partial use of this information, see V. Wadhwa, A. Saxenian, B.A. Rissing and G. Gereffi, "America's New Immigrant Entrepreneurs: Part I" (2007) Duke University, Science, Technology & Innovation Paper No.23.

do not include immigrant inventors who became citizens of the host countries, thereby underestimating migration figures.

Research infrastructure and data sharing

As illustrated by the previous sections, patent data for research in economic geography have now been in use for more than 20 years. Over this period, data collection and sharing have moved from being confined to bottom-up initiatives of individual researchers to involving some institutional actors. Still, the journey has not yet arrived to its end, as none of the institutional actors presently involved provides all the indicators required by the researchers. Nor has a consensus been reached on several methodological issues. The present situation is best described as one in which institutional actors interact with influential groups of researchers on a continual basis by providing access to regularly updated raw or semi-structured data on the basis of users' feedbacks.

From the NBER dataset to PatStat

Early research on LKS built upon a dataset of USPTO patents that was later made generally available by Hall et al. under the name of "NBER [National Bureau of Economic Research] patent citation data file" (in short, "NBER dataset").⁵⁴ The NBER dataset was widely exploited by all subsequent research, but its diffusion was not supported institutionally. Nor was any mechanism put in place to collect users' feedbacks. As the dataset contained only unstructured raw data, most users ended up in huge and wasteful duplications of data cleaning efforts. As for information on inventors, the NBER dataset did not provide any unique identifier for inventors appearing on different patents either with the same name but different addresses or with misspelled or slightly changed names. This implied the impossibility to check for self-citations at the individual level, to track mobile inventors who move across cities or countries, or to build inventor networks, unless the data user performed a name disambiguation effort of her own initiative.⁵⁵ The same applied to companies' names, with the additional problem that distinct companies could belong to the same group or merge at different points in time.

Recent efforts to update and upgrade the NBER dataset have addressed specifically this issue. Fleming and co-authors have produced and made publicly available several generations of disambiguated inventor data.⁵⁶ One limitation of this data development trajectory is its USPTO-centrism, which makes it not immediately useful for research based on data from several patent offices (such as when patent citations need to be collected at the patent family level).⁵⁷

A different, more inclusive trajectory is the one initiated by the EPO with the creation of PatStat, the Worldwide Patent Statistical Database. PatStat is a very large database covering around 80 patent offices (including all the largest ones), which EPO distributes for a low fee to non-commercial users interested in large scale statistical analysis. Launched in the second half of the 2000s, PatStat is now supported by several other organisations, such as the Organisation for Economic Co-operation and Development (OECD), Eurostat, USPTO and WIPO, which contribute by either producing complementary data or simply supporting its use, making it a de facto standard.

A unique identifier (stable through editions since April 2011) allows for re-uniting all information concerning the individual patent applications (from the title to the inventors and applicants to all legal

⁵⁴ B.H. Hall, A.B. Jaffe and M. Trajtenberg, "The NBER Patent Citation Data File: Lessons, Insights and Methodological Tools", National Bureau of Economic Research, Working Paper No.8498 (2001).

⁵⁵ On name disambiguation, see J. Raffo and S. Lhuillery, "How to Play the "Names Game": Patent Retrieval Comparing Different Heuristics" (2009) 38 Res. Pol'y 1617.

⁵⁶ G.-C. Li, R. Lai, A. D'Amour, D.M. Doolin, Y. Sun, V.I. Torvik, A.Z. Yu and L. Fleming, "Disambiguation and Co-Authorship Networks of the U.S. Patent Inventor Database (1975–2010)" (2014) 43 Res. Pol'y 941.

⁵⁷ On patent families, see C. Martínez, "Patent Families: When Do Different Definitions Really Matter?" (2011) 86(1) *Scientometrics* 39.

information) as well as, with some elaboration, the information concerning patent families. Starting with the April 2013 edition, inventors and applicants are also assigned a stable unique identifier (PERSON_ID), albeit one which is not based on any name disambiguation algorithm, but simply on the exact matching of names and addresses through applications.

PatStat users' inputs are collected and diffused by means of dedicated fora and websites and have produced significant improvements in the data that are distributed.⁵⁸ This emerging infrastructure has given birth to a users' community, in which economic geographers and regional economists are largely implicated, especially for what concerns information on inventors and localities (addresses of both inventors and applicants). Further relevant information concerns applicants (name disambiguation and identification of industrial groups) and non-patent literature citations.

PatStat-based complementary data for geographical analysis

The most important PatStat-based complementary dataset for research on economic geography is Regpat, which is produced, regularly updated and publicly diffused by the OECD. Regpat provides standardised information on the addresses of inventors and applicants of EPO and PCT patents for all OECD and EU 28 countries, plus BRICS (Brazil, Russia, India and China).⁵⁹ This is done first by parsing and disambiguating the addresses so as to obtain a postal code and city name and then by assigning a NUTS3 or equivalent regional code. So far, the low quality of the address information has prevented the full extension of Regpat to USPTO patents. Still, patent family information from PatStat allows in principle for geo-localising most USPTO applications with an EPO or PCT equivalent.

Regpat has still some way to go in terms of coverage (of patent offices), but we are not aware of any major data quality issue. The same cannot be said for information concerning the identity of applicants and inventors. In this respect, two databases exist, both reachable through the OECD and the EPO, which contain partially disambiguated information on patent applicants, namely the HAN/OECD⁶⁰ and the EEE-PPAT datasets.⁶¹

While both the HAN/OECD and the EEE-PPAT databases mark a great improvement in data quality information, they are still affected by data quality issues. Most notably, they could be improved upon in terms of type II errors (false negatives). These limitations affect some information at the core of research programs on the geography of innovation, most notably those on knowledge diffusion (which requires identifying self-citations at the company level) and inventor mobility (which investigates not only mobility in space, but also across companies).

The state of the art is still more fluid when it comes to information on inventors. The only PatStat-based inventor database is EPO-INV, which makes use of an idiosyncratic patent-inventor code (soon to be replaced by PatStat original PERSON-ID).⁶²

A common issue for both the datasets on inventors and on applicants is that no ex ante name disambiguation effort can produce an entirely satisfactory result (the same may apply to geo-localisation, but to a smaller extent). Users' feedbacks are necessary, but the organisational and technical challenges for incentivising their provision and making the collection possible are huge. Some attempts have been

⁵⁸ Such as the yearly conference on "Patent Statistics for Decision Makers" and the accompanying PatStat workshops. For FAQ and forums, visit <http://forums.epo.org/patstat/>. An unofficial, but popular blog, is available at <http://rawpatentdata.blogspot.it/> [Accessed October 22, 2014].

⁵⁹ S. Maraut, H. Denis, C. Webb, V. Spiezia and D. Guellec, "The OECD REGPAT Database" (2008) Organisation for Economic Co-operation and Development, Science, Technology and Industry Working Paper No.2008/02.

⁶⁰ G. Thoma, S. Torrisi, A. Gambardella, D. Guellec, B.H. Hall, & D. Harhoff, "Harmonizing and Combining Large Datasets—An Application to Firm-Level Patent and Accounting Data" (2010) National Bureau of Economic Research, Working Paper No.15851.

⁶¹ T. Magerman, J. Grouwels, X. Song and B. van Looy "Data Production Methods for Harmonized Patent Indicators: Patentee Name Harmonization", available at http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-AV-06-002/EN/KS-AV-06-002-EN.PDF [Accessed October 22, 2014].

⁶² On APE-INV, see M. Pezzoni, F. Lissoni and G. Tarasconi, "How to Kill Inventors: Testing the Massacrator(c) Algorithm for Inventor Disambiguation" (2012) *Cahiers du GREThA*, No.2012-29.

made (most notably by the APE-INV research program),⁶³ but to little avail. Institutional support would be decisive.

Conclusions

Patent data have greatly contributed to the advancement of the geography of innovation literature. Most notably, they have contributed to create a consensus on the extent of localisation in the space of knowledge flows. However, several scholars in the field have questioned the interpretation of this evidence in terms of pure knowledge externalities. Market-based channels, such as licensing (with consulting) and labour mobility of human capital, are most likely to play a very important role.

Patent data have also allowed studying in greater depth the various dimensions of distance affecting knowledge diffusion. It has been found that physical and transport distance plays a complementary, but independent, role with respect to administrative boundaries (both within and between countries). In addition, social distance, as measured by the positions of inventors on professional networks, as well as by cultural differences (such as those concerning migrant inventors from different countries), has also been found to play a role. These progresses have been made possible by the birth and expansion of a community of patent data users that increasingly shares its resources and solicits institutions to provide support, in the form of data inputs and coordination.

Future research will continue to expand our understanding of the ways in which distance affects knowledge diffusion and, in turn, explains the agglomeration of both innovation and economic activities in general. A new research front is opening up, and it concerns countries once considered peripheral to the innovation process, but which now contribute to it either directly (in the form of patented inventions) or indirectly (through the migration of students, scientists and engineers). Success in this and other directions of research will depend also on the capability of institutional actors to support data users' cumulative effort and limit the amount of wasteful duplicative data mining efforts.

⁶³ M. Den Besten, F. Lissoni, A. Maurino, M. Pezzoni and G. Tarasconi, "APE-INV Data Dissemination and Users' Feedback Project", available at: <http://www.esf-ape-inv.eu> [Accessed October 22, 2014].

Geographical Indications: What Do They Indicate?

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☞ EU law; Geographical indications; Intellectual property; International law; TRIPs

The connection between geography and quality

One of the most controversial categories of intellectual property is geographical indications (GIs). These are the designations placed upon goods, when according to most GIs laws there is a relationship between the geographic origin of those goods and their quality. This relationship may be based upon ecological factors such as climate and geology which are claimed to influence the quality of crops, fruit and vines, or climate, geology and vegetation which are claimed to influence the quality of cattle meat, cream and cheese. In some countries, human technological knowledge is claimed as an additional geographical factor explaining the quality of agricultural products, wines and spirits. In some countries, human technological knowledge combined with the natural resources of a region are used to explain the apparently unique qualities of handicrafts such as pottery, glass ware, wood carvings, lace, silk and other textiles.

The system of GIs protection assumes the quality-geography relationship, but there are virtually no examples of the proof of this relationship in any GIs litigation. A number of European cases concern registered GIs for regions that were political rather than biological areas. For example, a producer of pickled gherkins who distributed them under the description “Spreewälder Art” (Spreewald style), when he was located outside the designated Spreewald area, raised as a defence the fact that the designated area was an economic zone rather than a biological region.¹ The European Court of Justice (ECJ) refused to go behind the designation, ruling that this was a matter for the national authorities. Similarly, in the case concerning “Altenburger Ziegenkäse” (goat cheese made in the Altenburg region), the ECJ ruled that the German legislature was in a best position to rule on the propriety of the designation.² The case of *Northern Foods Plc v Department for Environment, Food and Rural Affairs*³ concerned a challenge involving the decision of the UK Department of the Environment, Food and Rural Affairs (DEFRA) to forward to the European Commission an application by the Melton Mowbray Pork Pie Association (MMPPA) for the registration of MELTON MOWBRAY PORK PIE as a Protected Geographical Indication (PGI) under EC Council Regulation 2081/92. The geographical area defined in the application covered a large area, including Leicestershire, Nottinghamshire and parts of Northamptonshire and Lincolnshire. The claimant asserted that the pork pies should come only from Melton Mowbray in Leicestershire. In rejecting this argument, the trial Judge observed that DEFRA was in the best position to decide upon the boundaries of PGI.⁴ It had been pointed out in the case that a number of registrations had been secured under the European regulation for GIs which were much wider than the designated geographical area. For example, the PGI PRUNEAUX D’AGEN included “not merely Agen but large parts of the departments of Lot-et-Garonne,

¹ *Carl Kuhne GmbH & Co KG v Jutro Konservenfabrik GmbH & Co KG* (C-269/99) [2001] E.C.R. I-9517.

² *Molkerei Grossbraunshain GmbH and Bene Nahrungsmittel GmbH v Commission* (T-109/97) [1998] E.C.R. II-3533.

³ *Northern Foods Plc v Department for Environment, Food and Rural Affairs* [2005] EWHC 2971 (Admin).

⁴ *Northern Foods* [2005] EWHC 2971 (Admin) at [30].

Gironde, Dordogne, Lot and Tarn-et-Garonne”.⁵ The Judge observed that this kind of argument had not found favour with the ECJ.⁶

Interestingly, a number of countries which are coming new to GIs as a means of marketing their agricultural products, tend to be much more virtuous than the Europeans in seeking to establish a relationship between geography and quality. Thus, for example, Kenya has embarked on a programme of mapping geographical areas associated with particular qualities of tea and coffee,⁷ and the Thai Department of Intellectual Property requires particulars of geological and climatic factors in GIs applications.

The original European GIs legislation, concerning French wines, was said to be predicated on the notion of *terroir*, suggesting a relationship between land and product quality. The supporters of GIs protection argue that at least the geological features of a *terroir* are unique.⁸ However, it is difficult to believe that Feta cheese produced both on the multitude of Greek islands and on the Greek mainland has a homogeneous geological basis within Greece and one which is distinct from say Bulgarian white cheese. Justin Hughes refers to a range of between 10 and 60 soil types for the *appellation d'origine contrôlée* (AOC) *Alsace grand cru* and that even within the tiny *Le Minervois* AOC there are four regions that are differentiated from each other by their *terroir* and their climate.⁹ The considerable variations in quality within single appellations such as Burgundy Champagne, Medoc, Port and Sherry for wines may also call into question the concept of a distinct *terroir*. The comparability of New World wines fitting within the quality spectrum of their European counterparts raises the possibility that it might be human factors, rather than *terroir*, that is determinative of product quality.

With the tension between the European Union on the one side and the New World countries, such as the United States and Australia, on the other, the relationship between quality and geography has been closely scrutinised by sceptics over the European vision for GIs protection. It had been observed, for example, that the pigs used in the production of Parma ham originated from countries such as Denmark and spent only four months of their lives in central Italy. This raw materials issue was dealt with by the European Parliament in its 2012 foodstuffs regulation.¹⁰ Article 5 of the Regulation which sets out the requirements for designations of origin and GIs provides in para.5(3) that where live animals, milk and meat are used as the raw materials for an origin product:

“[C]ertain names shall be treated as designations of origin even though the raw materials for the products concerned come from a geographical area larger than, or different from, the defined geographical area, provided that:

- (a) the production area of the raw materials is defined;
- (b) special conditions for the production of the raw materials exist;
- (c) there are control arrangements to ensure that the conditions referred to in point (b) are adhered to; and
- (d) the designations of origin in question were recognised as designations of origin in the country of origin before 1 May 2004”.

This provision calls into question the geography-quality relationship which has been the justification for GIs. Once the raw materials are removed from the equation, what is left is local human know-how, which is easily transportable, as the mediaeval Japanese found when they established a celadon ceramics industry by kidnapping Korean celadon potters.

⁵ *Northern Foods* [2005] EWHC 2971 (Admin) at [27].

⁶ *Northern Foods* [2005] EWHC 2971 (Admin) at [28].

⁷ M. Blakeney and G. Mengistie, “Case Study: Kenya Tea” in Michael Blakeney, Thierry Coulet, Getachew Mengistie and Marcelin Tonye Mahop (eds), *Extending the Protection of Geographical Indications. Case Studies in the Protection of Agricultural Products in Africa* (London: Earthscan, 2012), pp.213–234.

⁸ e.g. N. Olszak, *Droit des appellations d'origine et indications de provenance* (Paris: Éditions Tec & Doc, 2001), p.4.

⁹ J. Hughes, “Champagne, Feta, and Bourbon: The Spirited Debate about Geographical Indications” (2006) 58 *Hastings L.J.* 299, 360.

¹⁰ Regulation 1151/2012 of November 21, 2012 on quality schemes for agricultural products and foodstuffs [2012] OJ L343/1.

Some of the controversy between New World and Old World countries has been caused by New World industries being established by immigrants from the Old World who carry their technological know-how with them. If the EU Regulation permits live animals, milk and meat to be sourced from outside the original geographical area, why should these immigrants using the traditional production techniques of their original homes, not be permitted to use the GIs of their countries of origin for their meat, cheese and milk products.

There is no indication in the Regulation or its preamble as to why the relaxation of rules in relation to the raw materials for origin products should be confined to live animals, milk and meat. Why not also for wines and spirits?

Historic geography-quality relationships are being compromised by climate change. For example, it can be envisaged that the grape producing areas of southern England may in time become closer to the growing conditions for champagne than the vineyards of Epernay. In this situation, the wine producers of the Champagne province may look to England for their raw material. This may be a serendipitous result since Champagne was apparently created by an Englishman, Christopher Merrett, around 1662,¹¹ a quarter of a century before Dom Perignon became cellar master at Hautvillers.

Are GIs intellectual property?

Uniquely, among the various categories of intellectual property, there is no necessary element of creativity or intellectual input for GIs. GIs are geographical names which pre-dated the products which subsequently became known by that name.¹² Climatic, geological and locational parameters are physical facts and not intellectual contributions. Producers merely designate their products by using their address of origin. The level of creativity may be low for copyrights and trademarks, but it does exist. In relation to GIs there is no possibility for flexibility as the designation is fixed. Where human know-how is part of the ingredient of a GI—for example, the *méthode champenoise* for the manufacture of Champagne wines—it is not permitted to vary production methods to take account of new technologies. This can be contrasted with the approach being taken to the protection of traditional knowledge which is conceived of as a dynamic construct, not rooted in time.

A second matter is that, unlike other categories of intellectual property, GIs cannot be treated as property, in that they cannot be sold or licensed or dealt with independently of the region to which they apply, and producers within a region cannot be excluded from using the GI if they meet the certified production standards.¹³

Hughes explains the tension between New World and Old World attitudes towards GIs as possibly being based upon contrasting intellectual property philosophies.¹⁴ The US philosophy of intellectual property protection is typically based upon an ex ante incentive thesis, whereas European intellectual property philosophy tends to focus upon status.

Historical origins of GIs

The first GIs laws had little to do with protecting *terroirs*. The first law regulating the use to which arable land might be put and from which GIs laws might be traced is the vine edict of the Roman emperor Domitian in AD92, which banned the planting of any new vineyards in Italy and ordered the uprooting of half the vineyards in Roman provinces. The edict was an attempt to deal with an outbreak of famine

¹¹ Christopher Merrett, *Some Observations Concerning the Ordering of Wine Presented to the Royal Society: Of the Mystere of the Vintners* (Agricultural History, 1669), cited by Tim Jay and Madeline Taylor, "A Case of Champagne: A Study of Geographical Indications", available at <http://publications.bond.edu.au/cgej/29> [Accessed October 22, 2014].

¹² S. Stern "Are GIs IP?" (2007) 29 Eur. Intell. Prop. Rev. 39, 40.

¹³ Stern "Are GIs IP?" (2007) 29 Eur. Intell. Prop. Rev. 39, 41.

¹⁴ J. Hughes, "The Philosophy of Intellectual Property" (1988) 77 Geo. L.J. 287.

in the Empire by increasing the land available for the production of corn.¹⁵ The historical origins of GIs are usually traced back to the mediaeval French laws which conferred a number of advantages upon Bordeaux wine producers.¹⁶ Principal among these were the *privilège de la descente* and the *privilège de la barrique*. The former excluded non-Bordeaux wines from the Bordeaux wine market until 11 November of each year. The effect of this was to give Bordeaux wines an advantage in dealings with the lucrative English and Dutch markets as end of year dealings were vulnerable to the icing up of northern ports. Non-Bordeaux wines were marked as such and sequestered in designated wine cellars in the city. This had the effect of developing administrative arrangements for identifying the geographic origins of wines.

The *privilège de la barrique* reinforced the commercial advantage of Bordeaux wines as were the only wines entitled to a barrel made of superior wood and of specified dimensions which gave them an advantage for transportation in the merchant vessels of the time. In 1764, the *Arret de la Cour du Parlement concernant la police des vins* obliged each wine-grower to identify, by way of a red brand on the bottom of each barrique, his name and that of the parish from which the wine originated to prevent the illicit use of the Bordeaux barrique.

As with contemporary GIs, this distinctive marking actually provided an opportunity for unscrupulous traders to pass off inferior wines as having a Bordeaux provenance and within Bordeaux wine from the lower quality parishes was mixed with or passed off as wine from parishes of higher repute.

The privileges which Bordeaux enjoyed were swept away by the legislation of the National Constituent Assembly which abolished feudalism and revoked the privileges of towns, provinces, companies and cities throughout France.¹⁷ In seeking to preserve its privileges Bordeaux argued that as the land of the province was unsuitable for any other crops viticulture merited encouragement and protection. This foreshadowed the modern debate around sui generis GIs systems where they are justified for the purposes of rural development and the maintenance of rural populations.

A number of commentators have pointed out that the French appellations system has a much more modern origin than suggested by the mediaeval *privileges* and point to the opening of the railway between Bordeaux and Paris in the mid-19th century as a significant development.¹⁸ Others point to the development of concern for consumers arising from wine adulteration, fraud and falsification.¹⁹ Stanziani points out the establishment of the French AOC system to protect wines was the outcome of a long process in which the trademark system was utilised with limited success in a series of 19th century cases concerning deceptive designations.²⁰ This necessitated remedial legislation. The Law of 6 May 1919 concerning Appellations d'Origine was enacted as part of a package of legislation concerning the elimination of fraudulent and misleading designations for wines and foodstuffs. This law sought to provide a methodology for designating wine regions. This was reinforced by the establishment in 1935 of AOCs, under the supervision of a Committee that became the INAO (Institut National des Appellations d'Origine) since 1947.

Hughes pointed out in 2006 that, of the more than 35 protected appellations for cheese in France, only 11 were more than 30 years old and even Chianti did not become a protected *denominazione* in Italy until

¹⁵ Maguelonne Toussaint-Samat, *A History of Food*, 2nd edn (Oxford: Blackwell, 2009), p.287.

¹⁶ J. Capus, *L'Evolution de la Législation sur les Appellations d'Origine: Genèse des Appellations Contrôlées* (Paris: L. Larmat, 1947); A. de Vletian, *Appellations d'origine-Indications de provenance-Indications d'origine* (Paris: Delmas, 1989); Olszak, *Droit des appellations d'origine et indications de provenance* (2001); A. Richard, *De la protection des appellations d'origine en matière vinicole* (Bordeaux: Imprimeries Gounouilh, 1918); W. Van Caenegem, "Registered Geographical Indications between Intellectual Property and Rural Policy—Part II" (2003) 6 J. World Intell. Prop. 861.

¹⁷ Decree of August 4, 1789, discussed in Jeremy Jennings, *Revolution and the Republic: A History of Political Thought in France since the Eighteenth Century* (Oxford: Oxford University Press, 2011), p.29.

¹⁸ Olszak, *Droit des appellations d'origine et indications de provenance* (2001), p.6; Hughes, "Champagne, Feta, and Bourbon" (2006) 58 Hastings L.J. 299, 306–307.

¹⁹ A. Stanziani, "Information, Quality and Legal Rules: Wine Adulteration in Nineteenth Century France" (2009) 51 Bus. Hist. 268.

²⁰ A. Stanziani, "Wine Reputation and Quality Controls: The Origin of the AOCs in 19th Century France" (2004) 18 Eur. J.L. & Econ. 149.

1967.²¹ He suggests that the European enthusiasm for protecting GIs is more a reflection of contemporary agricultural policy than a desire to preserve historic institutions.

Confusing terminology

Because of the diverse ways in which the protection of GIs has evolved under national laws, there is no generally accepted terminology. Norma Dawson in a 2000 article sought to explain the GIs provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) from an English perspective.²² She noted that in some jurisdictions the GI often led “a shadowy or subterranean existence” which was rumoured as an intellectual property right “long before it existed” and that it was “surrounded by a complex debate lacking common terminology”.²³ She characterised the debate as being divided between protagonists who struck “an attitude of extreme indifference” best addressed by general principles of unfair competition and those at the other extreme, anxious to protect specific GIs “of domestic economic and cultural importance” who “argued for exclusive rights in a more absolute form than is generally accepted in intellectual property law”.²⁴ This more or less resembles the New World/Old World dichotomy mentioned above, although the World Trade Organization (WTO) dispute between Australia and the United States on the one side and the European Union on the other does not suggest an attitude of extreme indifference on the part of the New World.

Dawson²⁵ among others²⁶ suggests that this terminological diversity might result from the various international agreements which have attempted to deal with GIs. The Paris Convention for the Protection of Industrial Property in art.10 provided for the seizure of imports of goods bearing “false indication of the source of goods”. This expression was repeated in the Madrid Agreement for the Repression of False or Deceptive Indications of Source on Goods. The International Convention on the Use of Appellations of Origin and Denominations of Cheeses (Stresa Convention) borrowed the term “appellations d’origine” from the French AOC legislation. This in turn was repeated in the Lisbon Agreement for the Protection of Appellations of Origin and Their International Registration. Article 2 of the Lisbon Agreement defined “appellation of origin” to mean:

“the geographical name of a country, region, or locality, which serves to designate a product originating therein, the quality and characteristics of which are due exclusively or essentially to the geographical environment, including natural and human factors”.

Article 22 of the TRIPS Agreement defines GIs as:

“indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin”.

This definition expands the Lisbon Agreement concept of appellation of origin to protect goods which merely derive a reputation from their place of origin without possessing a given quality or other characteristics which is due to that place. Also, under the TRIPS Agreement, a geographical indication to be protected has to be an indication, but not necessarily the name of a geographical place on earth. Thus, for example, “Basmati” is taken to be an indication for rice coming from the Indian sub-continent, although it is not a place name as such. The indication has to identify goods as originating in the territory of a

²¹ Hughes, “Champagne, Feta, and Bourbon” (2006) 58 Hastings L.J. 299, 350.

²² N. Dawson, “Locating Geographical Indications—Perspectives from English Law” (2000) 90 Trademark Rep. 590.

²³ Dawson, “Locating Geographical Indications” (2000) 90 Trademark Rep. 590, 590.

²⁴ Dawson, “Locating Geographical Indications” (2000) 90 Trademark Rep. 590, 591.

²⁵ Dawson, “Locating Geographical Indications” (2000) 90 Trademark Rep. 590, 591–592.

²⁶ e.g. A. Conrad, “The Protection of Geographical Indications in the TRIPS Agreement” (1996) 86 Trademark Rep. 11, 13–14.

Member, a region or a locality of that territory. This definition also indicates that goods to be protected should originate in the territory, region or locality to which it is associated.

In 1975 WIPO issued a Draft Treaty on the Protection of Geographical Indications. The Draft Treaty provided for the protection of both appellations of origin and GIs. In 1975 WIPO also issued a Model Law for Developing Countries on Appellations of Origin and Indications of Source. The Model Law defined “appellation of origin” as:

“the geographical name of a country, region, or specific place which serves to designate a product originating therein, the characteristic qualities of which are due exclusively or essentially to the geographical environment, including natural factors, human factors, or both ... ; any name which is not that of a country, region or specific place is also considered a geographical name if it relates to a specific geographical area, when used in connection with certain products”.

The Model Law also defined “indication of source” as “any expression or sign used to indicate that a product or service originates in a country or region or a specific place”.

The WTO Secretariat in a survey of national laws identified 23 different terms and as a consequence adopted the term “indications of geographical origin” to designate the different expressions used by WTO Members to protect geographical origin of products.²⁷

Dev Gangjee in listing the “alphabet soup” of acronyms associated with GIs quotes Advocate General Jacobs’ observation that “the terminology used in this area itself risks being a fruitful source of confusion”.²⁸

Andras Jokuti contrasts the “cobweblike texture” in the field of GIs with patents or trademarks whose variants are similar or comparable throughout the world.²⁹ Most commentators agree that a reason for the terminological diversity is that, unlike trademarks and patents, GIs perform a diverse range of functions, not all of which are necessarily trade related. WIPO has commented that the various legal measures to protect GIs “were developed in accordance with different national legal traditions and within a framework of specific historical and economic conditions”.³⁰ As with other categories of intellectual property, a number of government ministries have a stake in the subject matter of GIs and in the formulation of GIs policies. Thus, it is not uncommon for GIs to be regulated by ministries of agriculture and rural affairs, consumer protection, culture, the environment, industry and science, as well as the intellectual property office.

In an attempt to reflect the economic realities, unconstrained by legal constraints Elizabeth Barham and Bertil Sylvander refer to “origin products”, although they acknowledge that, even with this more general terminology, origin products are “designated differently from one country to another (i.e. typical products, regional food, traditional food, *terroir* products)”.³¹

This definitional confusion is of more than academic interest, as in each policy context GIs have economic value, typically as the subject of trade and more recently as politically sensitive expressions of cultural heritage. These various policy implications are reflected in the functions of GIs. However, as with all schemes for legislative protection, definitions are critical in establishing the scope of the protected subject-matter.

²⁷ WTO, “Review under Article 24.2 of the Application of the Provisions of the Section of the TRIPS Agreement on Geographical Indications: Summary of the Responses to the Checklist of Questions (IP/C/13 and Add.1)”, November 24, 2003, IP/C/W/253/Rev.1. For a more recent global survey of GIs legislation, see O’Connor & Co, *Geographical Indications and TRIPS: 10 Years Later ... Part II—Protection of Geographical Indications in 160 Countries around the World* (Brussels: European Commission, 2007), available at http://trade.ec.europa.eu/doclib/docs/2007/june/tradoc_135089.pdf [Accessed October 22, 2014].

²⁸ D. Gangjee, *Relocating the Law of Geographical Indications* (Cambridge: Cambridge University Press, 2012), p.3, referring to *Schutzverband gegen Unwesen in der Wirtschaft EV v Warsteiner Brauerei Haus Cramer GmbH & Co KG* (C312/98) [2000] E.C.R. I-9187 at [2].

²⁹ A. Jokuti, “What Is the What and What is the Why? A Rough Guide to the Maze of Geographical Indications” (2009) 31 Eur. Intell. Prop. Rev. 118, 118–119.

³⁰ WIPO, “Document SCT/6/3 Rev. on Geographical Indications Historical Background, Nature of Rights, Existing Systems for Protection and Obtaining Protection in Other Countries”, p.4, April 2, 2002, SCT/8/4.

³¹ B. Sylvander and E. Barham, “Introduction” in E. Barham and B. Sylvander (eds), *Labels of Origin for Food: Local Development, Global Recognition* (Wallingford: CAB International, 2011), p.xiii.

The principal arena of contestation is the Council for TRIPS. The TRIPS Agreement envisaged in art.24.1 that WTO Members would enter into negotiations aimed at increasing the protection of GIs for wines and spirits under art.23. This latter article envisaged negotiations in the TRIPS Council concerning the establishment of a multilateral system of notification and registration of GIs for wines. Article 24.2 required in effect a review of these negotiations within two years of the entry into force of the TRIPS Agreement. A key feature of the debate is defining which GIs will be included within the multilateral system. The requirement in art.24.1 for further negotiations reflects the inability of TRIPS negotiators to reach a consensus during the Uruguay Round and this situation has not improved 20 years later. The definitional confusion in this debate will probably be preserved by art.24.3, which provides that, notwithstanding these negotiations, the GIs which existed in a Member immediately prior to the date of entry into force of the WTO Agreement shall not be diminished.

“War on terroir”

Tim Josling colourfully described the Trans-Atlantic disputation on GIs as the “war on *terroir*”.³² The frequent reference to the untranslatable “*terroir*” as an explanation of the European, principally French, affection for GIs carries with it an implication that there is something unique about European agriculture. Olszak contrasts the large scale agricultural practices of the New World, designed for mass consumption with the much smaller scale of Old World agriculture.³³ This may well be the case for the production of undifferentiated commodity crops such as cereals and oilseed, but in relation to wines and cheeses the scale of production can be described as industrial even in Europe. Hughes refers to the industrial scale in France of Champagne and cheese production.³⁴ Broude characterises the rhetoric around the notion of *terroir* as “the epitomic opposite of globalization” and that GIs are a legally sanctioned means of resisting homogenisation.³⁵

The vigour of the debates on GIs in the TRIPS Council inevitably reflects the perceived commercial value of what is at stake. The European Union is seen as using the TRIPS Agreement as an opportunity to repatriate (“claw back”) those GIs which might have been appropriated by New World Colonists. The New World countries see the European Union’s assertions as a threat to their valuable and long-established trademarks. Interestingly, the ferocity of this debate has attracted the attention of developing countries and least developed countries which have identified for themselves a commercial and cultural stake in the establishment and protection of GIs.³⁶

³² T. Josling, “The War on Terroir: Geographical Indications as a Transatlantic Trade Conflict” (2006) 57 J. Ag. Econ. 337.

³³ Olszak, *Droit des appellations d’origine et indications de provenance* (2001), p.4.

³⁴ Hughes, “Champagne, Feta, and Bourbon” (2006) 58 Hastings L.J. 299, 340–342.


³⁵ T. Broude, “Taking ‘Trade and Culture’ Seriously: Geographical Indications and Cultural Protection in WTO Law” (2005) 26 U. Pa. J. Int’l Econ. L. 623, 651–652.

³⁶ A. Taubman, “Thinking Locally, Acting Globally: How Trade Negotiations over Geographical Indications Improvise Fair Trade Rules” (2008) Intell. Prop. Q. 231; S. Wagle, “Protection of Geographical Indications and Human Development: Economic and Social Benefits to Developing Countries”, November 1, 2003, WIPO/GEO/DEL/03/7.

In Territorio Veritas: Bringing Geographical Coherence in the Definition of Geographical Indications of Origin under TRIPs

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 Geographical indications; Treaty interpretation; TRIPs

Introduction

In this article, I touch upon a topic that remains highly controversial in international intellectual property law—the legal protection of geographical indications of origin (GIs): Chianti wine, Champagne sparkling wine, Gorgonzola cheese, Parma ham, Darjeeling tea, Colombian coffee, and other terms that indicate (or are supposed to indicate, as I will develop in this article) the geographical origin of the products they identify. In line with the theme of this special issue of the *WIPO Journal*, I focus on the requirement of “geographical origin” upon which the protection of GIs has been historically built and is generally justified.¹ In particular, I question the ambiguity that characterises the current definition of GIs under art.22(1) of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs), which does not require that products originate entirely from their GI-denominated regions to enjoy GI protection as long as the quality, characteristic or reputation of the products at issue can be “essentially” attributed to those regions.

More specifically, as I elaborate in this article, under the current language of art.22(1), the makers of Chianti wine in Tuscany can legitimately use grapes from outside the Chianti region and label their wines with the Chianti GI as long as the products’ quality, characteristics or reputation remain essentially attributable to the Chianti region.² Similarly, producers of GI-denominated cheeses, coffees, teas, and so forth can lawfully use the relevant GIs regardless of whether the product ingredients or steps of production entirely originate in the GI-denominated regions, again as long as the overall quality, characteristics, or reputation of the products can be essentially attributed to those regions. Perhaps not surprisingly—and likely the reason behind the TRIPs provision—turning to outside regions as partial sources of product

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¹ The literature on this topic is extensive. e.g. Michael Blakeney, *The Protection of Geographical Indications: Law and Practice* (Cheltenham: Edward Elgar Publishing, 2014), p.1; Dev Gangjee, *Relocating the Law of Geographical Indications* (Cambridge: Cambridge University Press, 2012), p.1; Rosemary J. Coombe and Nicole Aylwin, “Bordering Diversity and Desire: Using Intellectual Property to a Mark Place-Based Products” (2011) 43 *Environment and Planning* 2027, 2027–2029; Christophe Geiger, Daniel J. Gervais, Nobert Olzak and Vincent Ruzek, “Towards a Flexible International Framework for the Protection of Geographical Indications” (2010) 1 *WIPO J.* 147, 157–158; Daniele Giovannucci, Tim Josling, William Kerr, Bernard O’Connor and May T. Young, *Guide to Geographical Indications: Linking Products and Their Origins* (Geneva: International Trade Center 2009). For more critical discussions, see Justin Hughes, “Champagne, Feta, and Bourbon: The Spirited Debate about Geographical Indications” (2006) 58 *Hastings L.J.* 299, 305; Kal Raustiala and Stephen R. Munzer, “The Global Struggle Over Geographic Indications” (2007) 18 *Eur. J. Int’l L.* 337, 359–360.

² For a detailed description of the production requirements for Chianti, see Tomer Broude, “Taking ‘Trade and Culture’ Seriously: Geographical Indications and Cultural Protection in the WTO” (2005) 26 *U. Pa. J. Int’l Econ. L.* 623, 666–667. See also Tim Josling, “The War on Terroir: Geographical Indications as a Transatlantic Trade Conflict” (2006) 57 *J. Agric. Econ.* 337.

ingredients and manufacturing steps has become increasingly common among GI producers during the past decades. On the one hand, this permits the production of more GI-denominated goods (at times for a lesser cost than using local ingredients and labour) in order to meet greater demands. On the other hand, it allows for meeting production quantities and requirements even in the face of challenges (e.g. drought, extreme winter, earthquake or other environment-related accidents) that could reduce the availability of local ingredients or labour. Consumers, however, are rarely explicitly informed that GI-denominated products may not originate entirely from the respective GI-denominated regions, and nothing in TRIPs requires the public disclosure of the actual geographical origin of products' ingredients or manufacturing steps. In general, GI-producers may be required to disclose the actual origin of the products' ingredients or manufacturing steps only when such disclosure is legally mandated as a matter of consumer protection or as a safety or technical standard under their respective national laws.

Criticisms of this non-rigorous application of the requirement of "geographical origin" under art.22(1) of TRIPs are not new³ and have been repeatedly voiced to oppose an expansion of GI protection into other products that would be modelled after the current regime for GIs identifying wines and spirits.⁴ In particular, critics have stressed that, despite the argument that GIs aim to protect local products and rural development, this trend of permitting GI producers to partially outsource the production of GI-denominated goods—in terms of both ingredients and labour—indicates that GI protection has become primarily a tool to secure exclusive rights over the attractive power of geographical terms. In this respect, it is well-known that GIs grant a presumption of tradition and high quality, and this frequently translates into a competitive advantage for GI producers, particularly in high-end sectors of the market. In turn, this can create barriers to entry for competitors.

In my previous scholarship, I have recognised that GIs add value to the products that they identify and this may offer a competitive advantage to their producers, but I have nonetheless concluded that a system of GI protection is more beneficial for economic development than a system in which competitors can freely use geographical terms without a direct connection to the GI-denominated region. In particular, I have highlighted that GIs can benefit local economies, the environment, and the conservation of local culture.⁵ Moreover, I have underlined that GIs do not grant an exclusive right over a type of product. Cheese makers in Wisconsin, for example, would remain free to produce and market "mozzarella" and "mozzarella di bufala" even if the United States concedes to the long-held pressure of the European Union (EU) to "claw-back" several geographical names of cheese (currently held to be generic in the United States).⁶ Equally as relevant, TRIPs permits competitors to use GIs in descriptive contexts (e.g. comparative advertising) and to name their products as a "style", "like" or "type" of GI-related product in several

³ For a detailed overview of the debates that led to the adoption of art.22(1) of TRIPs, see Gangjee, *Relocating the Law of Geographical Indications* (2012), pp.185–237.

⁴ TRIPs Agreement art.24(1). See also Felix Addor and Alexandra Grazioli, "Geographical Indications beyond Wines and Spirits—A Roadmap for a Better Protection for Geographical Indications in the WTO TRIPs Agreement" (2002) 5 J. World Intell. Prop. 865, 867; Emily C. Credit, "Terroir vs. Trademarks: The Debate over Geographical Indication and Expansions to the TRIPs Agreement" (2009) 11 Vand. J. Ent. & Tech. L. 425, 427.

⁵ Dev Gangjee, "Geographical Indications and Cultural Heritage" (2012) 4 WIPO J. 92; Anselm Kamperman Sanders, "Incentives for Protection of Cultural Expression: Art, Trade and Geographical Indications" (2010) 13 J. World Intell. Prop. 81; Toshiyuki Kono, "Geographical Indication and Intangible Cultural Heritage" in Benedetta Ubertaini and Esther Muñoz Espada (eds), *Le Indicazioni di Qualità degli Alimenti* (Milan: Giuffrè Editore, 2009), p.289.

⁶ In March 2014, the European Union requested that the United States cease using names of cheeses that are protected by GIs in Europe but are considered generic in the US as part of the negotiations for the Trans-Atlantic Trade and Investment Partnership. The controversies on this topic were widely reported by the press. "Say Bye Bye to Parmesan, Muenster and Feta: Europe Wants Its Cheese Back" *The Guardian*, March 11, 2014. On March 14, 2014, a bipartisan group of US senators wrote to the US Secretary of Agriculture and the United States Trade Representative urging them to resist the European Union's request due to its negative impact on the local industry. Letter from Senators Charles E. Schumer and Pat Toomey to Tom Vilsack, Secretary of Agriculture, and Michael Froman, United States Trade Representative, March 11, 2014, available at http://www.portman.senate.gov/public/index.cfm/files/serve?File_id=79c9296b-a7a7-482e-8c3f-60fd9bd77fa9 [Accessed October 22, 2014]. The European Union recently succeeded on a similar claim as part of the negotiation for the EU-Canada Trade Agreement (CETA). The (leaked) version of the agreement is available at <http://www.tagesschau.de/wirtschaft/ceta-dokument-101.pdf> [Accessed October 22, 2014]. See also Jason Langrish, "Say 'cheese' on Canada-EU Trade Deal" *Financial Post*, August 19, 2014, available at <http://business.financialpost.com/2014/08/18/say-cheese-on-canada-eu-trade-deal/> [Accessed October 22, 2014].

circumstances—the only exception to this general rule are GIs identifying wines and spirits.⁷ Still, in my writing I have expressed scepticism over GI protection when the products at issue are not grown or manufactured entirely or nearly entirely in the GI-denominated territory. In these cases, I have argued that GI protection indeed may transform into an unjustified anticompetitive subsidy as well as a tool for potential consumer confusion, or even deception.⁸

In this article, I further bring my scepticism to what I call “ambiguous geographical origin” of GIs and advocated against the misuse, or misinterpretation, of the terms “geographical origin” in art.22(1) of TRIPs. More specifically, I expose the partial inconsistency between the legal definition under TRIPs and the dictionary definition of the terms “geographical” and “origin”. In this respect, I point out that, from a strictly linguistic standpoint, the term “geographical”, in its variation as “geographic”, is defined as “of or relating to geography” and as “belonging to or characteristic of a particular region”.⁹ Likewise, the word “origin” is defined as “the point at which something begins or rises or from which it derives”.¹⁰ Based on these definitions, I note that art.22(1) of TRIPs essentially misuses, or at least misinterprets, the notion of the terms “geographical” and “origin” and expands the scope of GI protection beyond the meaning of these terms. This departure from a literal interpretation contributes to granting exclusive rights to GIs beyond the original rationale for protection, which remains protecting GIs for the information they convey to the public about products’ geographical origin and as incentives for investment in local economies.

In this article, I argue that this should not be permitted and that the definition and protection of GIs should return to coherently identifying products’ “geographical origin”. My argument in favour of this narrower approach is threefold. First, as noted by GI critics, GIs become an unjustified barrier to entry in the market, and a disguised subsidy, when they do not fully reflect the geographical origin of the products that they identify. Secondly, the use of GIs on products not fully locally grown or made becomes a source of misinformation for the consumers that rely on the GI as a source of geographical information, and a potential source of negative reputation for producers that operate within the GI-denominated region when the former products are of lesser or different quality, or pose a safety or health-related issue. Finally, adopting a stricter territorial approach could be the much-needed solution for bringing back legitimacy to the international debate over GIs. As I note in this article, GIs are and remain an important tool for economic and cultural development—finding a compromise like the one advocated in this article could perhaps move forward the gridlocked international agenda on GI protection.

Adding “reputation” to (already) ambiguous geography: Exposing the incoherence of the definition of geographical indications of origin under TRIPs

A contribution on GIs seems to fit well in a special issue of the *WIPO Journal* dedicated to the topic of intellectual property and geography. As reflected directly from their name, GIs are one of the most noticeable expressions of the notion of geography in intellectual property law—at least in its definition as “geographical origin”.¹¹ In particular, even though they remain a controversial type of intellectual property right, GIs are protected under TRIPs precisely because they identify the geographical areas from which certain products originate and from which these products derive their quality, characteristics and

⁷ Irene Calboli, “Of Markets, Culture, and Terroir: The Unique Economic and Culture-Related Benefits of Geographical Indications of Origin” in Daniel Gervais (ed.), *Research Handbook in International Intellectual Property* (Cheltenham: Edward Elgar Publishing) (forthcoming).

⁸ Calboli, “Of Markets, Culture, and Terroir” in Gervais (ed.), *Research Handbook in International Intellectual Property* (forthcoming).

⁹ *Merriam Webster’s Collegiate Dictionary*, 11th edn (Springfield: Merriam-Webster Inc, 2009), p.523. “Geography” is defined as “a science that deals with the description, distribution, and interaction of diverse physical, biological, and cultural features of the earth’s surface” and “the geographic features of an area”. *The Oxford Dictionary* defines “geographical” as “related to geography” and “geography” as “the nature and relative arrangement of places and physical features”. *Oxford Dictionary of English*, 2nd edn (Oxford: Oxford University Press 2003), p.723.

¹⁰ *Merriam Webster’s Collegiate Dictionary* (2009), p.875. A very similar definition is offered by the *Oxford Dictionary*, which defines “origin” as “the point or place where something begins, arises, or is derived”. *Oxford Dictionary of English* (2003), p.1242.

¹¹ *Merriam Webster’s Collegiate Dictionary* (2009), p.523. In this article I do refer to “geography” in a literal sense. I remain aware, however, that the interpretation of the notion of “geography” as scientific discipline remain more nuanced than its literal dictionary definition.

reputation.¹² More specifically, GI protection extends to those producers who utilise the geographical names in order to signal a certain geographical origin, based on the assumption that only products originating from those areas should be identified by those names, lest consumers be confused. Beyond the names of geographical localities and regions, the same principles apply to those products whose names have become associated with a specific locality even though those names are not geographical names—Feta cheese is perhaps the most famous (and contested) example of this type of GI. With respect to GIs identifying wines and spirits, the protection granted under TRIPs is greater and encompasses protection from the usurpation of GIs by third parties, even in the absence of consumer confusion.

As I have analysed before, protection for GIs originates, historically, from the French concept of *terroir*, which indicates a deep connection with the land from which the products derive not only in terms of the actual geological, meteorological, and other similar factors, but also in terms of the unique qualities derived from the local human factor.¹³ Following this tradition, GI protection has been primarily discussed in the context of agricultural and food-related products, including wine and spirits.¹⁴ But over time, GI protection has also become increasingly important for non-agricultural goods, such as artisanal artefacts and traditional design products, both in developed and developing countries.¹⁵ In an increasingly globalised and interconnected world, GIs play an important role in promoting local economies as well as local culture and traditions among different consumers in different countries. In particular, by identifying a product's geographical origin, GIs educate consumers about the commercial and traditional strengths of a locality while both capitalising on and enhancing the locality's goodwill. For these reasons, attention to GIs has grown considerably in recent years in developing countries as well.¹⁶

From a theoretical standpoint, however, the protection of GIs remains fundamentally linked to the notion of geographical origin. The importance of the geographical link between GI-denominated areas and GI-denominated products is also directly reflected in TRIPs and in the international treaty anticipating TRIPs, the Lisbon Agreement for the Protection of the Appellations of Origin and Their International Registrations (Lisbon Agreement).¹⁷ Hence, a closer look into the controversies surrounding the GI debate reveals a partially different application of the notion of "geographical origin" to GI protection—namely, that GI protection seems to increasingly lean towards a growing trend aimed at exploiting the commercial value (i.e. the reputation) of GIs, at the expense of geographical accuracy, that is, regardless of whether GIs still provide accurate information about the geographical origin of the products.

Despite the possible arguments favouring an expansive interpretation of the notion of GIs, this trend is nonetheless problematic. As I noted in the introduction, the literal definition of the terms "geographical" and "origin" encapsulates a much stricter notion of "geographical origin" than the one that has ultimately become widely accepted with TRIPs. In particular, the word "geographical" is defined as something

¹² For a summary of the arguments in favour of GI protection, see Calboli, "Of Markets, Culture, and Terroir" in Gervais (ed.), *Research Handbook in International Intellectual Property* (forthcoming).

¹³ Calboli, "Of Markets, Culture, and Terroir" in Gervais (ed.), *Research Handbook in International Intellectual Property* (forthcoming).

¹⁴ e.g. Matt Kramer "The Notion of Terroir" in Friz Allhoff (ed.), *Wine & Philosophy: A Symposium on Thinking and Drinking* (Oxford: Blackwell Publishing, 2007), p.225; Cornelis van Leeuwen and Gerard Seguin, "The Concept of Terroir in Viticulture" (2006) 17 J. Wine Res. 1; James E. Wilson, *Terroir: The Role of Geology, Climate, and Culture in the Making of French Wines* (Berkeley: University of California Press, 2004), p.4. See also Gangjee, *Relocating the Law of Geographical Indications* (2012), pp.80–93.

¹⁵ Rosemary J. Coombe and Nicole Aylwin, "Marks Indicating Conditions of Origin in Rights-Based Sustainable Development" (2014) 47 U.C. Davis L. Rev. 753; Madhavi Sunder, "IP3" (2006) 59 Stan. L. Rev. 257, 298. See also "Study for Geographical Indication Protection for Non-Agricultural Products in the Internal Market" (2013), available at http://ec.europa.eu/internal_market/indprop/docs/geo-indications/130322_geo-indications-non-agric-study_en.pdf [Accessed October 22, 2014]. In July 2014, the European Commission started a public consultation to evaluate the opportunity to extend GI protection to non-agricultural products.

¹⁶ Rosemary J. Coombe, Sarah Ives and Daniel Huizenga, "Geographical Indications: The Promise, Perils and Politics of Protecting Place-Based Products" in Matthew David and Deborah Halbert (eds), *Sage Handbook on Intellectual Property* (London: Sage Publications, 2014); Dwijen Rangnekar, *The International Protection of Geographical Indications: The Asian Experience*, p.19, available at http://www.iprsonline.org/unctadictsd/dialogue/docs/Rangnekar_2004-11-08.pdf [Accessed October 22, 2014].

¹⁷ Other relevant international instruments are the Madrid Agreement for the Repression of False and Deceptive Indications of Source and art.10bis of the Paris Convention for the Protection of Industrial Property (Paris Convention). Irene Calboli, "Expanding the Protection of Geographical Indications of Origin under TRIPs: "Old" Debate or "New" Opportunity?" (2006) 10 Marq. Intell. Prop. L. Rev. 181, 184.

“belonging to or characteristic of a particular region”¹⁸ while the word “origin” is defined as the “the point at which something begins or rises or from which it derives”.¹⁹ To a large extent, this stricter definition of geographical origin was well reflected in the traditional concept of *terroir*—a concept to which GI supporters continue to refer to support the idea that the natural and human conditions of the GI-denominated regions are inimitable anywhere else, and thus only GIs producers are permitted to use the GI in their product name. Yet, as Justin Hughes provocatively but correctly stated, these beliefs “about *terroir* run deep”, but not “too deep”,²⁰ and the story of GIs has increasingly shown that the same GI producers who invoke the uniqueness of *terroir* do not seem to hesitate to adopt a looser approach with respect to their own products. In particular, while loudly condemning third parties for using geographical names on products originating from outside the GI-denominated regions, GI producers have increasingly turned to outside sources to purchase raw materials or other product ingredients, and have even lobbied national and international legislators in order to legalise this trend.

As expected, this non-rigorous geographical approach has been labelled as hypocritical and the tension between a stricter and more flexible definition of “geographical origin” has adversely affected the international GI debate. To a certain extent, this controversy over a stricter and more flexible approach to the notion of geographical origin was not new to the negotiations leading to the adoption of TRIPs. Several decades earlier, in 1958, art.2(1) of the Lisbon Agreement²¹ had already introduced the idea that “appellations of origin” could be the

“geographical name[s] of a country, region, or locality, which serve to designate a product originating therein, the quality and characteristics of which are due *exclusively or essentially* to the geographical environment, including natural and human factors”.

Under special interest pressures (primarily from developed countries) and in context of greater trade negotiation (in which countries and corporations were also promoting fewer barriers to trade and fewer subsidies), the final version of art.22(1) of TRIPs confirmed that products do not need to entirely originate from their GI-denominated regions to enjoy protection. As Dev Gangjee has explained, TRIPs went even further and blended the concept of “essential” (no longer “exclusive”) *terroir* with the increasingly relevant (and lucrative) concept of “GI reputation”—that is, the attractive power that geographical names can exert when applied to products for sale in the marketplace.²² Ultimately, art.22(1) of TRIPs settled on a compromising (as much as incoherent) definition of GIs as:

“indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is *essentially* attributable to its geographical origin”.²³

As a result, GI producers were given full licence to partially deviate from producing their products entirely in GI-denominated regions,²⁴ while still retaining exclusive rights on the GIs and, in turn, the possibility to enforce these rights against third parties.²⁵ Moreover, with the elimination of the word

¹⁸ Merriam Webster's Collegiate Dictionary (2009), p.523.

¹⁹ Merriam Webster's Collegiate Dictionary (2009), p.875.

²⁰ Hughes, “Champagne, Feta, and Bourbon” (2006) 58 Hastings L.J. 299, 307.

²¹ Before the adoption of the Lisbon Agreement, the Madrid Agreement offered protection against misleading and confusing uses of indications of source in art.1(1). In particular, art.1(1) refers to “goods bearing a false or deceptive indications by which one of the countries to which this Agreement applies, or a place situated therein, is directly or indirectly indicated as being the country or place of origin”. For a detailed overview, see Gangjee, *Relocating the Law of Geographical Indications* (2012), pp.65–74.

²² See Gangjee, *Relocating the Law of Geographical Indications* (2012), p.214 (citing World Intellectual Property Organization (WIPO), “The Definition of Geographical Indications”, October 1, 2002, SCT/9/4, para.4).

²³ The definition in TRIPs was certainly influenced by the definition adopted by WIPO, which defines GIs as “sign[s] used on goods that have a specific geographical origin and possess qualities, reputation or characteristics that are essentially attributable to that origin”. WIPO, “Overview of Geographical Indications”, available at http://www.wipo.int/geo_indications/en/ [Accessed October 22, 2014].

²⁴ Gangjee, *Relocating the Law of Geographical Indications* (2012), p.214.

²⁵ TRIPs Agreement art.22(2).

“exclusively”—though present in the Lisbon Agreement—TRIPs seemed to have validated the idea that GI-denominated products would merely “essentially”—but no longer “exclusively”—originate from their typical localities.

In a world in which agricultural subsidies are increasingly denounced as anticompetitive, the protection of well-known geographical names offers GI producers an important alternative to these subsidies while continuing to secure “some monopoly rent” against similar products grown or produced by competitors that are located outside these areas (usually in other countries).²⁶ Not surprisingly, corporate forces and national interests have been solidly behind the designing of the more flexible approach to the protection and regulation of GIs ultimately adopted by TRIPs. The same constituencies have heavily lobbied for the expansion of GI protection in advocating the adoption of the anti-usurpation protection now granted to wines and spirits for all types of GIs—both as part of the Development Agenda of the World Trade Organization (WTO),²⁷ as well as part of bilateral and plurilateral free trade agreements.²⁸

Hence, when producers turn to outside resources to take advantage of a partly delocalised production model (that may help to increase production quantities and lower costs), this delocalisation unequivocally breaches what I call the “GI-protection bargain”—the fact that GIs are protected because they inform consumers about the link between the natural and human factors of the GI-denominated areas and the products coming from those areas, and therefore provide economic incentives to invest and maintain economic capital in those same areas. To borrow Dev Gangjee’s words, GIs are protected because they “must *actually* provide useful information to consumers in an established market” and for their “*potential*”, that is, the possibility to “generate improved incomes and tangible benefits for groups of rural or marginalized groups”.²⁹

In contrast, when GIs do not accurately reflect the geographical origin of the products, they essentially become marketing tools for local producers and act as unjustified barriers to entry for competitors breaching the quid pro quo that justifies their legal protection.³⁰ More problematically, as opposed to offering accurate information to consumers, GIs may become vehicles for consumer confusion and deception through the offering of inaccurate information about the products’ geographical origin, further leading to misunderstandings of other characteristics, including product safety and health and environmental aspects related to product manufacturing and distribution.³¹ In addition, the blame and shame that may incur from any problems with products not fully originating from GI-denominated regions could be erroneously passed along to other products that are entirely produced in their GI-denominated areas.³² Attempts to distinguish these “problematic” products as not fully originating from GI-denominated regions could further confuse consumers. Thus, product demand for producers in GI-denominated areas could still drop despite the clarification.

As I conclude below, this type of expansion in scope of GI protection should not be accepted because it constitutes a misuse of the rationale behind GI protection, which could lead to the creation of potentially perpetual rights on GIs (whose protection, like trademarks, is not limited in time) without an adequate bargain for the public interests and market competition. Certainly, narrowing the definition of GIs seems like a fight between David and Goliath. Far from being merely the emblem of rural development, GIs are

²⁶ e.g. Hughes, “Champagne, Feta, and Bourbon” (2006) 58 Hastings L.J. 299, 345.

²⁷ WTO, Declaration on the TRIPS Agreement and Public Health, November 14, 2001, WT/MIN(01)/DEC/2. See also Gail E. Evans and Michael Blakeney, “The Protection of Geographical Indications after Doha: Quo Vadis?” (2006) 9 J. Int’l Econ. L. 575.

²⁸ Recent examples in this respect are the concluded negotiations for a free trade agreement between the European Union and Singapore, and the ongoing negotiations for similar agreements between the European Union and Canada, India, Malaysia, Vietnam, and the United States, respectively. An updated list of the current trade negotiations undertaken by the European Union is available at http://trade.ec.europa.eu/doclib/docs/2006/december/tradoc_118238.pdf [Accessed October 22, 2014].

²⁹ Gangjee, *Relocating the Law of Geographical Indications* (2012), p.183.

³⁰ Calboli, “Of Markets, Culture, and Terroir” in Gervais (ed.), *Research Handbook in International Intellectual Property* (forthcoming) (noting that “[t]his may also provide a contractarian normative basis to protect GIs because consumers are more likely to benefit when those conditions are present, an argument that has been made also with respect to trademarks”).

³¹ TRIPs Agreement art.22(2).

³² Calboli, “Of Markets, Culture, and Terroir” in Gervais (ed.), *Research Handbook in International Intellectual Property* (forthcoming).

also fundamental trade instruments in the global marketplace and promote very large economic interests, as the recent wave of international trade negotiations between the European Union and several other countries to secure exclusive rights on GIs directly exemplifies. Still, it remains crucial to highlight the geographical incoherence currently characterising the definition in art.22(1) of TRIPs and to address this incoherence in order to restore legitimacy to the debate over GI protection. To instead insist on a broader and potentially misleading interpretation of geographical names may undermine local development in the long term as well as dilute the value of GIs generally.

In territorio veritas: The case for geographical coherence and a literal interpretation of “geographical origin” in art. 22(1) of TRIPs

As I highlighted above, the criticisms of the broad and incoherent definition of GIs under art.22(1) of TRIPs are certainly on point. The expansion of GI protection beyond the recognised function of GIs as indicators of accurate geographical origin—and, in turn, incentives for local development—is an unwelcome development for the intellectual property system. More generally, however, these criticisms should not undermine the relevance of GIs as legitimate intellectual property rights when limited to products that are grown and produced locally in their GI-denominated region. As stated before, GIs represent an important tool for consumer protection and economic development and play a constructive role within the intellectual property system.³³

Yet, to effectively fulfil this role, GIs cannot be untied from the geographical areas to which they belong—the geographical link remains both the essence of GIs and the only reason why GIs should be protected when applied to commercial products. In contrast to this principle, the primary objective of the corporate lobbyists who have pushed for the more flexible definition in art.22(1) and the introduction of the notion of “reputation” in this definition, is to secure exclusive rights over GIs’ “evocative power”³⁴ in order to gain a competitive market advantage—and to possibly turn to non-local ingredients and labour should the need arise.

This, however, does not have to be the ending chapter of the GI story. On the contrary, the international community should seriously consider a categorical shift away from this misuse of the rationale behind GI protection, by instead adopting a more rigorous and narrower interpretation of the terminology “geographical origin”. To this end, in this Part, I highlight that the international community could consider limiting the scope of GI protection to a literal interpretation of these terms to avoid the degeneration of GIs into absolute rights in geographical names in the absence of accurate geographical contexts, with negative effects on consumers, competition, and the local economies that GIs are supposed to help support.

In this respect, even though difficult to achieve in practice, the international community could amend the text of art.22(1) and adopt a narrower and more geographically coherent definition of GIs, which would be limited to those names that accurately identify the geographical origin of the products to which they are affixed. In particular, the definition in art.22(1) could be realigned with a stricter *terroir* approach by removing product “reputation” from the qualifying elements for GI protection in addition to the quality and characteristics of the products. To emphasise the necessity of a strict link between the geographical area and the GI-denominated product, the word “essentially” could also be removed from the provision. Thus, GIs could be defined as:

“indications which identify a good as originating in the territory of a Member, or a region or locality in that territory, where a given quality or other characteristic of the good is attributable to its geographical origin”.

³³ Calboli, “Of Markets, Culture, and Terroir” in Gervais (ed.), *Research Handbook in International Intellectual Property* (forthcoming).

³⁴ Hughes, “Champagne, Feta, and Bourbon” (2006) 58 Hastings L.J. 299, 305.

Alternatively, the word “essentially” in the current text of art.22(1) could be substituted with “exclusively” or, although less preferred, with the wording “exclusive or essentially” as is currently stated in the Lisbon Agreement. Here again, this language would better reflect that GI protection depends on a very high level of geographical connection between the products and the GI-denominated areas, and generally on an “exclusive” link between these two—“essentially” remaining merely an exception and not the general rule, should the international community prefer the language that is currently used in the Lisbon Agreement.

Still, I am fully aware of the difficulties—technical and political—surrounding the possibility of an amendment to TRIPs.³⁵ However, a change in this direction remains necessary in order to realign the rationale for GI protection with its application in practice. Moreover, if an amendment to TRIPs is too difficult to pursue at the international level, national legislators could instead consider a stricter interpretation of GIs at the local level.³⁶ To this end, TRIPs additionally prohibits any misleading use of GIs in art.22(2) and permits “interested parties” to oppose:

- “(a) the use of any means in the designation or presentation of a good that indicates or suggests that the good in question originates in a geographical area other than the true place of origin *in a manner which misleads the public as to the geographical origin of the goods*”.

The application of GIs to partially de-localised products or to products using ingredients from outside the GI-denominated area could be seen as a violation of this provision—which must be implemented into national laws and not only allows GI producers to oppose the use of geographical names by competitors located outside the region, but also allows consumers and competitors that may be “interested” in opposing any misleading use of GIs by anyone, including GI producers.

In contrast, without renewed attention to this matter, national laws could further broaden the definition and regulation of GIs. In this respect, one of most intricate examples of the regional regulation of GIs is in the European Union. Notably, Council Regulation 1151/2012 on quality schemes for agricultural products and foodstuff defines “protected geographical indications” (PGI) as a name identifying a product:

- “(a) originating in a specific place, region or country; (b) whose given quality, reputation or other characteristics is essentially attributable to that geographical origin; and (c) at least one of the production steps of which takes place in the defined geographical area.”³⁷

The same Regulation offers a more stringent definition for “designation of origin” (PDO) as identifying only products entirely produced in the relevant area,³⁸ even though the same Regulation allows raw materials—specifically animals, meat and milk—that are used for PDO-designated products recognised in the country of origin before May 1, 2004, to nonetheless originate from outside the relevant geographical area.³⁹ A similar approach is adopted under Council Regulation 479/2008 (Wine Regulation),⁴⁰ which defines and regulates PDOs and PGIs for wines, while Council Regulation 119/2008 (Spirits Regulation),⁴¹ only refers to PGIs for spirits.

Hence, the story of GI protection at the international level does not need to mirror the modern European system.⁴² Instead, the international debate should strive for a more coherent position and converge on the

³⁵ Calboli, “Of Markets, Culture, and Terroir” in Gervais (ed.), *Research Handbook in International Intellectual Property* (forthcoming).

³⁶ For a detailed analysis of the French system of appellation of origin, see Gangjee, *Relocating the Law of Geographical Indications* (2012), p.21.

³⁷ Regulation 1151/2012 of November 21, 2012 on quality schemes for agricultural products and foodstuff [2012] OJ L343/1, art.5(2) (Quality Schemes Regulation).

³⁸ Quality Schemes Regulation art.5(1).

³⁹ Quality Schemes Regulation art.5(3).

⁴⁰ Council Regulation 479/2008 on the common organization of the market in wine, amending Regulations 1493/1999, 1782/2003, 1290/2005, 3/2008 and repealing Regulations 2392/86 and 1493/1999 [2008] OJ L148/1, arts 34(1)(a)–(b) (Wine Regulation).

⁴¹ Regulation 110/2008 of January 15, 2008 on the definition, description, presentation, labelling and the protection of geographical indications of spirits drinks and repealing Council Regulation 1576/89 [2008] OJ L39/16, art.15 (Spirits Regulation).

⁴² I express this critique as an Italian, born and raised in the City of Bologna, which has been repeatedly named the gastronomic capital of Italy. I personally treasure the gastronomic and culinary tradition of Italy, and Europe in general, and I fully believe that a system of GI protection grounded on “geographical origin” would benefit localities more than the current system, which seems targeted primarily towards medium and large agricultural

theory that GIs ought to be protected based on consumer protection and local incentive theories. In this respect, reframing GI protection within stricter geographical boundaries could also restore the legitimacy of the GI debate—currently plagued by the accusations that GIs are nothing more than disguised subsidies and protectionist instruments—and this in turn could facilitate better re-negotiations on the expansion of GI protection and the creation of an International Registry as provided by art.24(1) of TRIPs.

As noted above, despite the opposition to GIs and the excesses that everyday practice in this area has highlighted, GIs remain a relevant tool for consumer protection and the economic development of localities, in both developed and developing countries. Notably, GIs convey information to consumers as well as promote local production, incentivise local investment, and reward local producers for the high quality of their products, in terms of both social and environmental responsibility.⁴³ Without GI protection, producers outside of the GI-denominated areas (from large conglomerates to individual businesses) could unfairly exploit geographical names through non-local products even when these products have no connection to the original GI-denominated goods. Certainly, producers of these products would argue that these geographical names are generic in their countries, but these claims are increasingly less valid since globalisation facilitates travel and social media facilitate information in such a way, that today's consumers are much better educated about the geographical origin of many products, even when these products originate from remote regions in foreign countries.

In some instances, it remains true that geographical terms are used outside the original location by immigrant communities, whose members emigrated from GI-denominated regions taking with them the original *savoir faire* used by producers in those regions, and continued to produce the same products with the same *savoir faire* in their new countries of residence. To accurately identify these immigrant communities remains difficult, however, and in many instances the original *savoir faire* has been subjected to changes with the passing of time and the introduction of new ingredients and manufacturing techniques from the “new world”. Accordingly, granting immigrant communities special consideration based on a past connection with the GI-denominated region compared to other outside competitors without the same connection also defeats the basic purpose of GI protection—that of indicating the “geographical origin” of the GI-denominating products. Moreover, these geographical terms are very frequently used by non-immigrants (or by businesses that are only in part owned by immigrant communities), whose intention is primarily to facilitate the sale of their products by evoking the idea of foreign localities and a connection with those localities. Ultimately, regardless of who effectively uses geographical names outside GI-denominated regions—immigrant communities or unrelated third parties—the use of GIs beyond their geographical context represents a source of inaccurate information for consumers. Similarly, any out-of-context use of GIs—by immigrant communities or unrelated parties—can damage the name and reputation of the localities from which the GI-denominated products originated. For example, free-riding, non-authentic products of lower quality may also tarnish the reputation of GIs. This could result in decreased sales for GI producers and, in turn, damage for their localities in both revenues and future sales.⁴⁴

Last but not least, GIs promote another set of important interests—the culture-related interests of the localities that they represent. Namely GIs promote awareness of the traditional knowledge and traditional skills needed to produce GI-denominated products, and, in turn, promote the conservation of this knowledge and these skills. GIs' role in promoting local culture is not limited to traditions and encompasses the variations and adaptations of local culture through the local human factor—i.e. culture in its dynamic

or food-related industries rather than rural or local development. See also Annette Kur and Sam Cocks, “Nothing but a GI Thing: Geographical Indications under EU Law” (2007) 17 *Fordham Intell. Prop. Media & Ent. L.J.* 999; Annette Kur, “Quibbling Siblings—Comments” (2007) 82 *Chicago-Kent L. Rev.* 1316.

⁴³ Calboli, “Of Markets, Culture, and Terroir” in Gervais (ed.), *Research Handbook in International Intellectual Property* (forthcoming). See also Margaret Ritzert, “Champagne is from Champagne: An Economic Justification for Extending Trademark-Level Protection to Wine-Related Geographical Indicators” (2009) 37 *AIPLA Q.J.* 191, 212–220.

⁴⁴ e.g. Michelle Agdomar, “Removing the Greek from Feta and Adding Korbel to Champagne: The Paradox of Geographical Indications in International Law” (2008) 18 *Fordham Intell. Prop. Media & Ent. L.J.* 541, 586–587.

interpretation.⁴⁵ Therefore, GIs should not be (mis)appropriated, because this could not only have long-lasting economic consequences, but also negatively impact on local culture and traditions.

Ultimately, in as much as expansive GI protection favours a certain set of corporate interests—those with a long agricultural or cultural tradition like the European Union and other parts of the “old world”—the lack of more appropriate GI protection favours another set of corporate interests—those producing similar products in the “new world” selling under names that are similar to the traditional geographical names without sharing any geographical link with those locations. Disputes over terms like Budweiser, Champagne, or Parma between “new” and “old” worlds are some illustrious examples of these conflicting interests.⁴⁶ Yet, these terms *are* geographical terms, which identify specific products coming from specific areas in Europe, and it is unquestionable that the North American companies that use these or similar terms as trademarks or as a generic description of their products certainly do so in part to exploit the geographical associations generated by these terms. Here again, this use of GIs outside their geographical context should not be permitted, in as much as GI producers themselves should not be permitted to shortcut the necessary geographical link that qualifies their own products for GI protection.

In summary, the debate over GI protection should converge and recognise that geography—that is, “geographical origin”—is the only reason to grant GI protection and the right to prevent third parties’ use of geographical names to identify their products. In this respect, a system of protection based on a stricter *terroir* approach makes a much more compelling case in favour of GIs. Of course, opponents will continue to criticise GI protection arguing that many geographical names are generic in the “new world”—like Champagne or Parmesan—and that today’s modern technology can replicate the conditions of any *terroirs* almost anywhere.⁴⁷

Hence, as I argued before, GI opponents should recognise that GIs secure exclusive rights only on the names of the products and not on the products themselves, which in turn implies that competitors can produce identical goods for identical markets. For example, Wisconsin cheese makers are not prevented from making mozzarella-type cheese with buffalo milk or blue-veined-type cheese, they just cannot call these products Mozzarella di Bufala Campana or Roquefort (or Gorgonzola), respectively. Moreover, as noted above, GI protection under TRIPs does not extend to the use of GIs in descriptive and comparative advertising settings (i.e. to promote their goods as “style”, “like”, “type” etc.) with the exception of GIs for wines and spirits under art.23.⁴⁸ As long as outsiders use GIs for comparative purposes without creating confusion on the part of the public about the actual origin of the products, these uses are permitted. This again makes the case of GI protection more appealing to critics, as long as producers use GIs in their accurate geographical contexts.

Conclusion

Despite suggesting that the concept of “geographical origin” is fundamental to qualifying for GI protection, the analysis of the GI debate and the details surrounding the normative foundation of this protection demonstrate that this geographical link has progressively been broadened to accommodate corporate and national interests, primarily coming from businesses from the European Union and other countries with GI-intensive industries. As a result, under the current legal definition of GIs under TRIPs, GI-denominated products may not originate entirely from the GI-denominated areas, yet producers in these areas retain the exclusive rights to use and to exclude others from using the GIs, and therefore maintain the exclusivity

⁴⁵ Calboli, “Of Markets, Culture, and Terroir” in Gervais (ed.), *Research Handbook in International Intellectual Property* (forthcoming) (referring to the definition of intangible cultural heritage in art.2(1) of the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage 2003).

⁴⁶ Calboli, “Of Markets, Culture, and Terroir” in Gervais (ed.), *Research Handbook in International Intellectual Property* (forthcoming).

⁴⁷ Hughes, “Champagne, Feta, and Bourbon” (2006) 58 Hastings L.J. 299, 357; Raustiala and Munzer, “The Global Struggle over Geographic Indications” (2007) 18 Eur. J. Int’l L. 337, 359.

⁴⁸ In my scholarship, I have called for a change in art.23 permitting these comparison also for GIs for wines and spirits. Calboli, “Expanding the Protection of Geographical Indications of Origin under TRIPs” (2006) 10 Marq. Intell. Prop. L. Rev. 181, 202.

to evoke the positive values generally associated with those names. Against this status quo, it is difficult to argue that GI protection is only about informing consumers of the origin and the associated characteristics of GI-denominated products, and not also (or primarily) about securing a monopoly over the evocative value of GIs in the marketplace.

As I noted in this article, the definition of “appellations of origin” in the Lisbon Agreement opened the door to the partial de-localisation of products. Moreover, TRIPs’ inclusion of the word “reputation” in the definition of art.22(1) clearly validated not only the trend of products not entirely made in the GI-denominated regions, but also the possibility of securing a monopoly on the exploitation of the value of the reputation associated with GIs on a commercial scale. Not surprisingly, in an increasingly competitive (and less subsidised) marketplace for both agricultural and non-agricultural products, the value of GIs as signifiers of quality, tradition, and, in turn, reputation, can be paramount to securing a large market share against competing products. This status quo, however, runs directly against the rationale for GI protection—providing accurate information to consumers about the geographical origin of the products, while offering incentives to local communities to invest in local production.

In this article, I proposed that GI protection should be limited to those that accurately identify geographical origin. It is only by adopting a coherent approach to the geographical link encapsulated in GIs that the international debate can be reopened, and a more constructive approach can be found. This is important for the world economy. Even though GI protection was primarily pushed into the TRIPs negotiations by developed countries—namely, the European Union—developing countries can also benefit from GIs as tools for national development since GIs can protect and promote the local agricultural, culinary, and artisanal products, thereby promoting investment in these countries. Furthermore, the role of GIs transcends purely economic interests. In particular, GIs can incentivise the conservation of traditional knowledge while promoting local labour and acting as guarantors of safety and other important product characteristics.

Certainly, my proposal to restrict GI protection and permit the use (and the right to exclude others from the use) of GIs only on products entirely (or at most “entirely or essentially”) originating from the GI-denominated regions may not appeal to many—in particular businesses that have specific interests in securing (larger quantities or cheaper) raw materials and labour outside of those regions. Likewise, the obstacles to amending the definition of GIs in TRIPs may prove insurmountable, considering the current polarisation of the GI debate worldwide, and the increasing shift away from the WTO in favour of bilateral and plurilateral FTAs. Still, despite these unavoidable road blocks, it remains crucial to repeat that “geographical origin”, intended as genuine derivation from the land, should be the *only reason* for protecting GIs as intellectual property rights. Otherwise, the words of GI opponents would ring true, and GIs will be just another monopoly and a disguised subsidy, favouring corporate interests and not benefiting, but rather misinforming and deceiving, consumers and potentially damaging local economies. In conclusion, the solution to the GI debate lies in geography.

The Protection of Geographical Indications in the Inter-American Convention

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☞ Competition agreements; EU law; Geographical indications; Treaties; United States

Introduction

The international community is currently deeply divided, with no agreement in sight, over the appropriate level of protection for geographical indications (GIs). GIs receive extensive protections within the European Union (EU) that go beyond international standards, while the United States is generally opposed to strengthening existing international GI protections.¹ The fundamental conflict between the positions of the European Union and the United States on this protection have come to a head in the negotiations over the Transatlantic Trade and Investment Partnership Agreement. While the president of the EU Parliament has stated that GIs “are one of Europe’s greatest assets”,² the United States believes that stronger GI protections will result in US consumers paying higher prices for food while their options in grocery stores will be diminished. The potential resolution of this disagreement could have enormous global consequences both in terms of paving the way forward for a new multilateral trading system, but also for the coherence of the international system for the protection of GIs.

The conflict over GIs between the European Union and the United States had previously come to a head in the negotiations on the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS Agreement). Since that time, the European Union and the United States have been competing to promote their different approaches to the protection of GIs in other countries and regions. This strategy has involved the development of bilateral or plurilateral agreements that contain these two different approaches.³ A case in point are the two very different approaches taken in the free trade agreements negotiated with Korea by the United States in 2007 and the European Union in 2011.⁴

Simply put, the difference in the two approaches is that the European Union prefers sui generis protection for GIs, while the US approach is founded on traditional notions of trademark law.⁵ It has been observed that in its bilateral and regional free trade agreements the United States has hardened its trademark approach to the protection of GIs, while the EU approach in its free trade agreements has moved further towards a

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¹ Lina Montén, “Geographical Indications of Origin: Should They Be Protected and Why? An Analysis of the Issue from the U.S. and EU Perspectives” (2005) 22 Santa Clara High Tech. L.J. 315 (noting how the members of the World Trade Organization who ultimately enact the laws proposed by the treaties are split between the EU and the “Old World” in favour of enhanced protection of GIs and the US and the “New World” in favour of limited protection, if any).

² Catherine Saez, “WIPO Design Treaty Fate Left to Assembly, Despite Shift on Technical Assistance” Intellectual Property Watch, March 21, 2013, available at <http://www.ip-watch.org/2014/03/21/wipo-design-treaty-fate-left-to-assembly-despite-shift-on-technical-assistance/> [Accessed October 22, 2014] (citing to a letter written by EU Parliament President Martin Schulz to members of the Internet Corporation for Assigned Names and Numbers (ICANN) expressing concern over the misuse of European GIs as domain names).

³ Bernard O’Connor, “The European Union & the United States: Conflicting Agendas on Geographical Indications—What’s Happening in Asia?” (2014) 9 Global Trade & Customs J. 66.

⁴ Compare chapter 18 of the US-Korea Free Trade Agreement with chapter 10 of the European Union-Korea Free Trade Agreement.

⁵ O’Connor, “The European Union & the United States” (2014) 9 Global Trade & Customs J. 66.

registration-based system; the EU system involves the establishment of a GI register. These differences have caused commentators to speculate over whether the two systems are now at all compatible.⁶

While the protection of GIs is certainly a modern-day concern in an era of globalised markets, GIs also have ancient roots. The European history of GI protection is usually noted, but few have explored the history of GI protection in the United States.⁷ Conventional wisdom holds that the United States is a late comer to the protection of GIs, and that its stance has always been to limit protections. However, US law on indications of geographical origin goes back almost 150 years. And surprisingly, the United States played a key role in developing one of the first plurilateral agreements that protected GIs. Given its current stance on GI protection, it is remarkable that the United States has been bound by an international convention that has ensured strong protection of GIs since February 20, 1929. Since that date, the United States has been a member of the General Inter-American Convention for Trade Mark and Commercial Protection (Inter-American Convention).⁸ What is even more astonishing is that, at the time, the provisions on GIs in the Inter-American Convention were the most developed and strongest protections available in any international agreement.

The inclusion of a fairly extensive chapter on the protection of GIs in the Inter-American Convention is curious as the United States has never been viewed as a major proponent of GI protection. Contrary to the popular belief that the United States has historically failed to protect GIs, the United States has itself established international protections for GIs. An understanding of this agreement and the particular protections it affords GIs would provide insights into the US position on GIs, which may offer a sturdier basis for international negotiation on their protection. This agreement indicates what should be the minimum standards for the protection of GIs in the United States given that this agreement is still in effect. Moreover, as this agreement sought to merge the US common law of unfair competition with the Latin American registration-based system, it may suggest a way out of the current impasse between the United States and the European Union.

The Inter-American Convention as a milestone in the development of GI protection

The international protection of GIs is a fairly recent occurrence. Although the Paris Convention first addressed the protection of GIs in 1883, it is generally acknowledged that that protection was quite limited. It included “indications of source” and “appellations of origin” as protected areas of intellectual property, but it did not define these terms or include any enforcement provisions.⁹

The Madrid Agreement for the Repression of False or Deceptive Indications of Source of Goods, which was ratified in 1891, extended protection against “deceptive” indications of source in addition to “false” indications. A deceptive indication of source can be the true name of the place from which the good originates, but nevertheless confuses the purchaser with respect to the true origin and quality of the good.¹⁰

⁶ O'Connor, “The European Union & the United States” (2014) 9 Global Trade & Customs J. 66 (casting doubt on Korea’s implementation and application of both agreements).

⁷ Felix Addor and Alexandra Grazioli, “Geographical Indications beyond Wines and Spirits: A Roadmap for a Better Protection for Geographical Indications in the WTO/TRIPS Agreement” (2002) 5 J. World Intell. Prop. 865, 869; Raffi Melkonian, “The History and Future of Geographical Indications in Europe and the United States”, available at <http://dash.harvard.edu/handle/1/8852204> [Accessed October 22, 2014]; WIPO, “Geographical Indications: Historical Background, Nature of Rights, Existing Systems for Protection, and Obtaining Effective Protection in Other Countries”, January 25, 2001, SCT/6/3; L.S. Tellier, “Unfair Competition in Use of Geographical Tradename by Persons Carrying on Business Elsewhere” (1948) 174 A.L.R. 496.

⁸ General Inter-American Convention for Trade-mark and Commercial Protection 1929. The convention is referred to as both the Inter-American Convention and the Pan American Convention.

⁹ Article 1(2) of the Paris Convention states: “The protection of industrial property has as its object patents, utility models, industrial designs, trademarks, service marks, trade names, indications of source or appellation of origin, and the repression of unfair competition.” Article 10(i) of the convention requires countries to seize “on importation” or “inside the country” any goods bearing a “direct or indirect use of a false indication of the source of the goods”. Article 10bis(3) was not added until 1958.

¹⁰ Article 1(1) provides that: “(A)ll goods bearing a false or deceptive indication by which one of the countries to which this Agreement applies, or a place situated therein, is directly or indirectly indicated as being the country or place of origin shall be seized on importation into any of the said countries.”

The Madrid Agreement also prohibits appellations for wine from becoming generic. It only had 17 members in 1929.

Other international agreements containing stronger GI protections followed the Inter-American Convention. The International Convention on the Use of Appellations of Origin and Denominations of Cheeses (Stresa Convention) was not concluded until 1951, and the Lisbon Agreement for the Protection of Appellations of Origin and Their International Registration (Lisbon Agreement) was not concluded until 1958.

Before 1929 domestic law in Europe also did not provide for extensive GI protection. The first law addressing the false designation of origin on labels was enacted in France in 1905,¹¹ but appellations of control (AOC) were not established until 1908. Even then, AOC did not address quality or the method of production.¹² The first law that resembles what we now understand as French AOC protection was not enacted until 1919.¹³ It was not until 1935—six years after the Inter-American Convention—that the Institut National des Appellations d’Origine (INAO) was created,¹⁴ the same year that French law established a special category of AOC for wine and spirits. Champagne was not granted an AOC until the following year.

Resurrecting the forgotten Treaty

This abbreviated timeline of the protection of GIs both internationally and in France demonstrates that there were not many legal protections that preceded the Inter-American Convention. The Convention was thus pioneering; its attempt to define protections in the GI area was without many models. This fact in and of itself should render the Inter-American Convention an important development in GI protection, but this has not been the case.

It would be an understatement to say that the Inter-American Convention is neglected in the literature on GIs. In fact, no commentator on GIs has even mentioned this agreement. The numerous scholars and commentators who write about GI protection commonly recount the history of such protection and yet routinely fail to include the Inter-American Convention in the timeline of the development of this area of law.¹⁵ Bernard O’Connor’s book on GI protection neglects to even mention this convention.¹⁶ It includes in its coverage the Paris Convention, the two 1891 Madrid Agreements, the Stresa Convention, the Lisbon Agreement, WIPO’s draft treaty and model laws, the international wine organisation, the TRIPS Agreement, and five bilateral and two plurilateral agreements on GIs. The Inter-American Convention is not even included in a footnote in the section on protections in the United States. Similarly, Michael Blakeney’s recent book on GI protection fails to mention the Inter-American Convention.¹⁷ This book covers all of the same agreements and mentions several additional bilateral agreements, but not the Inter-American Convention. The convention thus seems to have been forgotten by the scholarly community.

¹¹ Loi du 1er Août 1905 sur les Fraudes et Falsifications en Matière de Produits ou de Services (5 Août 1905) Journal Officiel 4813. This law broadly protected origin labelling, preventing any fraud or misidentification of foodstuffs or agricultural products.

¹² Loi du 5 août 1908 Modification de l’Article 11 de la Loi du 1 Août 1905 et Complétant Cette Loi par Un Article Additionnel (11 Août 1908) Journal Officiel 5637.

¹³ Loi du 6 Mai 1919 Relative à la Protection des Appellations d’Origine (8 Mai 1919) Journal Officiel 4726. See also Dev Gangjee, *Relocating the Law of Geographical Indications* (Cambridge: Cambridge University Press, 2012), pp.83, 102. (The Law of 1919 not only created a more “elaborate” formula for determining origin, but it also shifted the power to make these determinations to the judiciary.)

¹⁴ Décret du 16 Juillet 1947 Fixant La Composition du Comité National des Appellations D’origine (19 Juillet 1947) Journal Officiel 6948. Judicial decisions produced uncertainty, so the French government created an official body to both establish and protect appellations of origin. This new regime recognised the importance of both origin and quality. Gangjee, *Relocating the Law of Geographical Indications* (2012), p.109.

¹⁵ e.g. Addor and Grazioli, “Geographical Indications beyond Wines and Spirits” (2002) 5 J. World Intell. Prop. 865, 869; Melkonian, “The History and Future of Geographical Indications in Europe and the United States”, available at <http://dash.harvard.edu/handle/1/8852204> [Accessed October 22, 2014]; WIPO, “Geographical Indications”, 2001; Tellier, “Unfair Competition in Use of Geographical Tradename by Persons Carrying on Business Elsewhere” (1948) 174 A.L.R. 496.

¹⁶ Bernard O’Connor, *The Law of Geographical Indications* (London: Cameron May Ltd, 2004).

¹⁷ Michael Blakeney, *The Protection of Geographical Indications: Law and Practice* (Cheltenham: Edward Elgar Publishing, 2014).

One wonders whether the European Union is aware of this convention and its chapter on GI protection. If it were, one would imagine that the European Union would take better advantage of the existence of the United States' continuing obligations to protect GIs in its negotiation of the TRIPS Agreement and the Transatlantic Trade and Investment Partnership. These are not the only negotiations that have failed to note the Inter-American Convention. Even more curious, this convention has not been identified by parties to free trade agreements where both parties are contracting members of the Inter-American Convention. Colombia, Guatemala, Honduras, Nicaragua, Panama and Peru have each negotiated free trade agreements with the United States. Even though numerous other existing agreements are indicated, the Inter-American Convention has not ever been identified.¹⁸

Private parties have also failed to take advantage of the Inter-American Convention in the United States. There have been only a small number of cases litigated in the United States that have relied upon the convention. Only a couple of these have involved a GI.¹⁹ The convention may be better utilised in other Contracting States.

The reason for the Inter-American Convention

The historical context of the convention helps explain some of its unusual features such as strong GI protections. The convention was not only an early attempt at a plurilateral agreement on trademark rights; it was also an outgrowth of the Pan American conferences.

The 1929 convention was one of the results of a 40-year-long effort to create a Pan American Union, which was meant primarily to be a trade union in the Americas. The convention was also a by-product of the Pan Americanism movement that existed in the United States at the time whose objectives included replacing Europe as the dominant power in the region, using institutionalism as alternative to US expansionism and military interventions, and cultivating Latin America as a market for US manufactured goods.²⁰ The ambitions of the union included the creation of a common customs union, railway system and currency, among other things.

The 1929 convention, in particular, was the culmination of efforts dating back to 1889 to harmonise trademark protection in the Americas. There had been six Pan American conventions dealing with trademarks that preceded the 1929 convention, but those conventions proved to be substantively deficient and had limited ratifications.²¹ The first Pan American Convention was initially negotiated in the shadow of the Paris Convention. Perhaps one reason for the interest in concluding regional agreements on intellectual property was that the large majority of Latin American states were not then members of the Paris Union.²²

¹⁸ United States-Colombia Trade Promotion Agreement 2011 art.16.3; United States-Panama Free Trade Agreement 2007 art.15.3; United States-Peru Trade Promotion Agreement 2006 art.16.3.

¹⁹ *Havana Club Holding S.A. v Galleon S.A.* 974 F. Supp. 302 (SDNY 1997); *Corporation Cimex, S.A. v DM Enterprises & Distributors Inc.*, Opposition No.91178943 (November 17, 2008) (not precedential).

²⁰ José Martí, the Cuban nationalist, attended the 1889 Congress as a journalist. He reported that the US only invited the other American nations to join a union because it was "glutted with unsaleable merchandise and determined to extend its dominions in America". José Martí, "On: The Pan-American Congress" *La Nación*, December 19–20, 1889, available at <http://www.christusrex.org/www2/jcf/martipanamerican103197.html> [Accessed October 22, 2014].

²¹ The six conventions were ratified in 1889, 1902, 1906, 1910, 1923 and, finally, 1929.

²² Only Brazil, Cuba and Mexico became members of the Paris Union by 1929. Brazil was a founding member of the Paris Convention in 1883, and Mexico and Cuba ratified in 1903 and 1904, respectively. The United States ratified the Paris Convention in 1887. A few other Latin American states were original signatories to the Paris Convention only to denounce it shortly after. For instance, the Dominican Republic ratified in 1884, but denounced in 1888. Likewise, Guatemala acceded in 1884, but denounced in 1894. Ecuador acceded in 1884, but denounced the next year. Ladas, "Patents, Trademarks, and Related Rights" (1975), p.66, 1745, fn.1. During the 1929 Pan American Conference it was stated that Brazil and Cuba intended to withdraw from the Paris Convention. Pan American Trademark Conference, "Minutes of the Plenary Sessions and of the Committees of the Conferences", February 11–20, 1929, p.5. Brazil, Cuba and Mexico were also members of the Madrid Agreement of 1891. In 1906 Argentina invited the United States Trademark Association (USTA) to comment on its domestic trademark law. Similarly, in 1908, Ecuador asked the USTA to propose a trademark law which was to become the model for other Latin American countries. International Trademark Association, "About INTA History", available at: www.inta.org/history/pages/history.aspx [Accessed October 22, 2014].

The 1929 convention included 19 signatory countries.²³ The convention entered into force on April 2, 1930.²⁴ Ten states ultimately ratified the convention: Colombia, Cuba, Guatemala, Haiti, Honduras, Nicaragua, Panama, Paraguay, Peru and the United States. The convention remains in force today in each of these countries.²⁵

The inclusion of GI protection in the Inter-American Convention

It is not immediately clear why a chapter on the “Repression of False Indications of Geographical Origin or Source” was included in the Pan-American Convention in 1929. None of the previous Pan American conventions had ever included GI protections before.²⁶ The 1929 convention not only was the first to address GI protection, but it devoted an entire chapter to those protections. This convention was also the first to introduce specific protections against unfair competition. The preamble of the convention states that the Contracting States were “animated by the desire to reconcile the different juridical systems which prevail in the several American Republics” and resolved to negotiate the convention “for the protection of trade marks, trade names, and for the repression of unfair competition and false indications of geographical origin”. The text of the agreement supports this statement.

The final adoption of the Pan-American Convention occurred on February 20, 1929, in Washington, DC. I have conducted extensive research to determine the origins of the text which ultimately became the final text of the agreement because many of its provisions are so curious.

As a result of a resolution made by the conference held in Havana in 1928, a special committee of the governing board of the Pan American Union consisting of three Latin American representatives was appointed to draft a text for the delegates to consider at its scheduled meeting in Washington the following year.²⁷ That draft text was preoccupied with creating a registration-based system for the Americas as an alternative to the Madrid Arrangement. This draft did not contain any provisions for the protection of GIs.

That draft text, however, was abandoned when the conference met on February 11, 1929.²⁸ Just prior to the conference, Stephen P. Ladas, a respected US trademark practitioner published an influential book in an effort to “facilitate the work of the conference of trade mark experts and specialists of the American countries, meeting at Washington, February 11, 1929”.²⁹ In the book, Ladas critiqued the proposed draft as inadequate and offered his own draft text for the Treaty. In a footnote in another book he later published, Ladas mentioned “preparatory work” by US trademark experts—including him—that seems to have been the genesis of his draft.³⁰ Ladas’s draft was radically different from the committee’s draft. It was also the first time GIs were mentioned in any Pan American treaty or draft. Thus, it seems clear that the inclusion of GI protection was the result of the interest of the US delegates, not the Latin American delegates.

Ladas devoted his art.10 to the protection of “indications of the place of origin”. In his draft, however, protection was limited to “false indication[s] of origin calculated to deceive the public”.³¹ Ladas notes that his draft text embodies proposals made by the Cuban and US delegations at the Conference of The Hague

²³ The signatories to the convention were Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Ecuador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, the United States, Uruguay and Venezuela.

²⁴ The convention became effective in the United States, by Presidential proclamation, on February 27, 1931.

²⁵ See WIPO, “Contracting Parties/Signatories: General Inter-American Convention for Trade-Mark and Commercial Protection”, available at http://www.wipo.int/wipolex/en/other_treaties/parties.jsp?treaty_id=353&group_id=21 [Accessed October 22, 2014].

²⁶ The 1910 Convention (art.8) and 1923 Convention (art.V) did include references to false representation of origin, but it was not clear that this was meant in the geographic sense.

²⁷ A proposed draft was thus prepared by the Ambassador of Cuba and ministers from Ecuador and Uruguay and was submitted to the conference on November 23, 1928. Pan American Trademark Conference, “Preparatory Data for the Pan American Trade Mark Conference: Report of the Committee of the Governing Board of the Pan American Union”, February 11, 1929.

²⁸ Stephen P. Ladas, *Patents, Trademarks, and Related Rights: National and International Protection* (Cambridge, MA: Harvard University Press, 1975), pp.1754–1756, fn.40 (suggesting that the draft predominantly reflected the results of “preparatory work” undertaken by New York trademark experts).

²⁹ Stephen P. Ladas, *The International Protection of Trade Marks by the American Republics* (Cambridge, MA: Harvard University Press, 1929).

³⁰ Ladas, *Patents, Trademarks, and Related Rights* (1975), p.1754, fn.40.

³¹ Ladas, *Patents, Trademarks, and Related Rights* (1975), pp.69–70.

and also incorporates art.1 of the 1891 Madrid Arrangement. Thus, his draft went beyond the Paris Convention in its protection of GIs. Additionally, Ladas not only included an article modelled on the then three-year-old art.10*bis* of the Paris Convention, but he also proposed a model law of unfair competition in addition to the draft treaty. This model law was based on a draft model law previously prepared by Edward S. Rogers who coincidentally was then serving as one of the three US delegates to the Pan American Conference.

However, neither the committee's draft nor Ladas's draft ended up serving as the basis for the conference negotiations. Instead, on the first day of the meeting, the delegate from Cuba proposed substituting the committee's draft with a completely different draft ostensibly prepared by the Cuban delegation "[f]or the purpose of expediting the work" of the conference.³² This new draft was clearly based on Ladas's draft, not the initial committee's draft. Ladas later acknowledged that this draft was "prepared with the cooperation of the United States delegation".³³

The conference then agreed to appoint four committees to carry out the work of the conference. Remarkably, one committee was devoted to "Unfair Competition and False Indication of Origin". A second was a "drafting committee" comprised of only four delegates; one representing each of the four languages spoken by the delegates.³⁴ Edward Rogers was appointed to this committee to represent the English language.³⁵ He was one of the foremost experts in both US and international trademark law at the time.

I recount this history in detail because where the chapter on GI protection came from is key to understanding its significance. While it might be assumed that such protection was included at the insistence of the Latin American delegates who in their civil law traditions may have had laws more in line with European states, there is no evidence that this is true. It does not appear that any of the Latin American countries who were represented had themselves any previous experience with GI protection. Rather, it appears that these protections came at the insistence of the US delegation. First, these protections follow a common law tradition and are rooted in unfair competition.³⁶ Secondly, at the time of the negotiation, there was concern on behalf of US manufacturers that goods were being sold as American-made in Latin America. It may have been for these reasons that this protection was included. It may also have been an opportunity to codify US common law on this topic, as was the case with the chapter on protections against unfair competition.

After the convention was finalised but before it was ratified, the US delegation produced a document entitled "The Advantages Accruing to American Citizens from the General Convention for Trademark and Commercial Protection". The US delegation highlights the protections for GIs in that document:

"Chapter V extends through Latin America common law principles of honest trading which have been enforced in the United States for forty years under the elastic jurisdiction of our equity courts. It has always been the law in this country that the application of geographical terms to merchandise not originating in the geographical district indicated, is unfair and unlawful. This chapter extends that salutary doctrine throughout Latin America. It is of value because it enables persons whose goods originate in famous districts to secure to themselves the advantage which announcement of that source conveys, and prevents others not entitled to use the geographical indication because not operating in the district from taking unfair advantage by the false application to their goods of the geographical

³² Pan American Trademark Conference, "Minutes of the Plenary Sessions and of the Committees of the Conferences", 1929, p.4.

³³ Ladas, *Patents, Trademarks, and Related Rights* (1975), p.1755.

³⁴ Pan American Trade Mark Conference, "Pan American Trade Mark Conference, Washington DC—Pan American Trade Mark Conference Opens Sessions", February 11, 1929, p.2 (press release).

³⁵ Pan American Trademark Conference, "Minutes of the Plenary Sessions and of the Committees of the Conferences", 1929, p.3.

³⁶ Harry D. Nims, *The Law of Unfair Business Competition Including Chapters on Trade Secrets and Confidential Business Relations; Unfair Interference with Contracts; Libel and Slander of Articles of Merchandise, Trade Names, and Business Credit and Reputation* (New York: Baker, Voorhis, 1909), p.260 ("The [trade name] cases here considered, relate to names of goods which are not capable of exclusive appropriation, but which are protected against general use, by the law of unfair competition.").

name. Concretely, if American-made goods acquire a reputation in Latin America, this chapter will prevent goods originating elsewhere from masquerading directly or indirectly as American-made.”

The contribution of the Inter-American Convention to the protection of GIs

Given the dearth of specific protection of GIs in international law and the absence of codified protection in US law, the breadth and depth of the protections in the convention is unexpected. The chapter on GIs begins with art.23, which provides:

“Every indication of geographical origin or source which does not actually correspond to the place in which the article, product or merchandise was fabricated, manufactured, produced or harvested, shall be considered fraudulent and illegal, and therefore prohibited.”

The convention uses the phrase “indication of geographical origin or source”. In the draft of the convention that was presented to the conference, as with Ladas’s draft, the phrase used was “indication of source or origin”; “geographical” was added by the drafting committee at the suggestion of Edward Rogers.³⁷

This provision appears more similar to art.23 than art.22 of the TRIPS Agreement, yet it applies to all goods. The language would appear to prohibit the use of geographical names that are false, yet not misleading. In his commentary on his draft, Ladas referred to the then existing protection in the Paris Convention as a protection against “qualified fraud”, in contrast to the “unqualified” protection in the Madrid Arrangement.³⁸ The Ladas draft clearly conditioned protection on uses that were misleading, but this formulation appears to have been abandoned in the final text.

Moreover, it does not appear from this article that the falsehood need be believable or material to be actionable. Thus, arbitrary uses of geographic names appear to be prohibited. Subsequent articles offer some qualifications of the broad protection suggested by this article.

Article 24 provides:

“For the purposes of this Convention the place of geographical origin or source shall be considered as indicated when the geographical name of a definite locality, region, country or nation, either expressly and directly, or indirectly, appears on any trade mark, label, cover, packing or wrapping, of any article, product or merchandise, directly or indirectly thereon, provided that said geographical name serves as a basis for or is the dominant element of the sentences, words or expressions used.”

In the conference, Rogers stated that this article deals only with cases of deception and should be drafted to clearly indicate this limitation.³⁹ The last phrase of this article was added by Rogers to make this point. His original formulation was as follows: “provided that said geographical name serves as a basis or motive for the sentences, words or expressions employed”.⁴⁰ Article 24 also makes clear that GIs are protected even when used indirectly, that is, not just when used in trademarks, but in other areas of the label or packaging. An indirect reference to a geographical origin could be graphic, and it thus appears that such a use would be covered.

Article 25 provides:

“Geographical names indicating geographical origin or source are not susceptible of individual appropriation, and may be freely used to indicate the origin or source of the products or merchandise or his commercial domicile, by any manufacturer, industrialist, merchant or agriculturist established in the place indicated or dealing in the products there originating.”

³⁷ Pan American Trademark Conference, “Minutes of the Plenary Sessions and of the Committees of the Conferences”, 1929, p.62.

³⁸ Ladas, *The International Protection of Trade Marks by the American Republics* (1929), p.69.

³⁹ Pan American Trademark Conference, “Minutes of the Plenary Sessions and of the Committees of the Conferences”, 1929, p.87.

⁴⁰ Pan American Trademark Conference, “Minutes of the Plenary Sessions and of the Committees of the Conferences”, 1929, p.87.

Article 25 thus states a basic principle under US trademark law: that geographical names are not subject to individual appropriation. By the time this article was drafted, however, an exception had emerged under unfair competition law where a geographic name that has acquired secondary meaning and use by competitors would result in confusion as to the source's origin.⁴¹ Without this exception, this provision would appear to drastically limit trademark rights.

Article 26 provides:

"The indication of the place of geographical origin or source, affixed to or stamped upon the product or merchandise, must correspond exactly to the place in which the product or merchandise has been fabricated, manufactured or harvested."

Article 26 demands exactitude when indicating a geographical place of origin. If a good is from a nearby place, it may not employ the geographic name. This issue had been the subject of litigation in the United States.⁴²

Article 27, without using the word "generic", appears to provide an exemption for generic names:

"Names, phrases or words, constituting in whole or in part geographical terms which through constant, general and reputable use in commerce have come to form the name or designation itself of the article, product or merchandise to which they are applied, are exempt from the provisions of the preceding articles; this exception, however, does not include regional indications of origin of industrial or agricultural products the quality and reputation of which to the consuming public depend on the place of production or origin."

Notice, however, that there is an exception to the exception in the last section of the article for regional terms that have a reputation for quality.

Article 28 openly addresses remedies and appears to resolve the persistent criticism of the Paris Convention that the unfair competition provisions in art.10*bis* had no teeth. It states that in the absence of special remedies for false indications of geographical origin in domestic law, trademark law remedies will apply:

"In the absence of any special remedies insuring the repression of false indications of geographical origin or source, remedies provided by the domestic sanitary laws, laws dealing with misbranding and the laws relating to trade marks or trade names, shall be applicable in the Contracting States."

There is no mention of products of the vine as in the Madrid Agreement, or vineyard products as in the draft considered by the conference, or of any other category of goods that would be subject to heightened protections.⁴³ There also does not seem to be any language that either extends or denies protection to services.

⁴¹ *Finchley Inc v Finchley Co* 40 F. 2d 736 (DC MD 1929) ("The rule would apply even as against those doing business within the same geographical limits if the name was used fraudulently for the purpose of misleading buyers as the actual origin of the thing produced, or palming off the products of one person as those of another."); *Elgin National Watch Co v Loveland* 132 F. 41 (CC Iowa 1904) (enjoining the use of Elgin by the Elgin Jewelry Company even though the defendant maintained a one-room place of business in Elgin, Illinois, which was the home of the reputed Elgin National Watch Company); *Waltham Watch Co v United States Watch Co* 173 Mass. 85 (1899).

⁴² *Dunbar v Glenn* 42 Wis. 118 (1877) (restraining the defendant from selling, or offering for sale, any mineral water represented as being "Bethesda mineral water", notwithstanding such water was taken from a spring only 1,200 feet from the test spring and was of the same chemical analysis as the water of the Bethesda spring).

⁴³ The draft convention also mentioned tobacco products. Ladas's draft did not mention any particular kinds of products. The references to wine and tobacco were eliminated at the suggestion of Rogers. Pan American Trademark Conference, "Minutes of the Plenary Sessions and of the Committees of the Conferences", 1929, p.88.

Unfair competition in the Inter-American Convention

In addition to having a chapter on GI protection, the Inter-American Convention also includes a chapter on unfair competition. Chapter IV of the convention is titled “Repression of Unfair Competition” and sets out detailed protections against acts of unfair competition that go well beyond the then existing protection in the statutory law in any of the member states or any international convention. That chapter mentions the protection of GIs as an aspect of unfair competition in a manner far more direct than the current language of art.10*bis* of the Paris Convention.⁴⁴

This chapter details specific acts that are “declared to be acts of unfair competition” including

“[t]he use of false indications of geographical origin or source of goods, by words, symbols, or other means which tend in that respect to deceive the public in the country in which these acts occur” (art.21.c).

Additionally, art.21.d describes another act of unfair competition:

“To sell, or offer for sale to the public an article, product or merchandise of such form or appearance that even though it does not bear directly or indirectly an indication of origin or source, gives or produces, either by pictures, ornaments, or language employed in the text, the impression of being a product, article or commodity originating, manufactured or produced in one of the other Contracting States.”

Thus, two of the four enumerated acts contrary to principles of unfair competition explicitly deal with geographical origin.

Finally, the convention singles out trade names as another category of protection. The protection of trade names under US law at this time is significant to the protection of GIs because, during this period, US courts commonly referred to GIs as “trade names”. At the time, a trade name was a designation that was not susceptible of exclusive appropriation, but yet had acquired secondary meaning and was employed by a merchant as a means of identifying its product, business or service.⁴⁵ Thus, trade names frequently involved the name of the place where the business was located.

The continuing significance of the Inter-American Convention

This agreement would be noteworthy even if it had since been denounced by the United States and the other Member States. Had it been denounced, it would be noteworthy because strong geographical protections had been proposed by and acceded to by the United States, indicating that these protections were consistent with US trademark law. However, it is not the case that this treaty has been denounced; this treaty is still in force in all of the original 10 Member States, including the United States.

The Inter-American Convention is therefore not a mere historical relic or curiosity. Instead, it is operable law in 10 countries. The Inter-American Convention is self-executing, meaning that these rights are immediately operative in US courts; the legislature does not need to act in order to make the treaty operative. Sometimes treaties contain language indicating that they are not self-executing. There is no language in the Inter-American Convention suggesting that it is not self-executing. In addition, in most cases, the rights are so specific and detailed that legislative implementation is unnecessary.

The US Supreme Court has held that the Inter-American Convention is a self-executing treaty, and thus became law in the United States without the necessity for implementing legislation: “This treaty on

⁴⁴ See also Nims, *The Law of Unfair Business Competition Including Chapters on Trade Secrets and Confidential Business Relations; Unfair Interference with Contracts; Libel and Slander of Articles of Merchandise, Trade Names, and Business Credit and Reputation* (1909). The inclusion of GI protection under the umbrella of unfair competition may further suggest that US delegates were involved in the making of this draft, given the historical development of GI protection in the United States, which drew upon unfair competition.

⁴⁵ Tellier, “Unfair Competition in Use of Geographical Tradename by Persons Carrying on Business Elsewhere” (1948) 174 A.L.R. 496.

ratification became a part of our law. No special legislation in the United States was necessary to make it effective.”⁴⁶ Coincidentally, Edward Rogers, the US delegate to the Pan American Conference, represented the petitioner who successfully asserted a claim under the Inter-American Convention in the Supreme Court case.⁴⁷

The participation of Rogers in the drafting and negotiation of this convention is also a reason for its continued significance. In order to understand the reasoning behind the inclusion of a chapter on the “Repression of False Indications of Geographical Origin or Source” within the Inter-American Convention in 1929 and the absence of development and regulation of GIs under the Lanham Act in 1946, we must understand Rogers’ contributions. His academic work, together with his direct participation in the drafting of the Lanham Act and international agreements, are the keys to this mystery.

Rogers had become one of the few specialists in trademark law in the United States prior to World War I.⁴⁸ He was called “the Dean of the Trademark Bar”⁴⁹ during his lifetime, and he was so well regarded in US trademark law that, when he died, the *Trademark Reporter* devoted an entire (200-page) book to his legacy. Rogers is credited with major drafts of the Lanham Act and has since been referred to as the “father of the Lanham Act and perhaps the greatest trademark scholar and lawyer in the first half of the 20th century”.⁵⁰ As he was a distinguished and well-respected trademark practitioner in the United States, Rogers was able to bring to the negotiating table a deep and sophisticated understanding of US trademark law. Moreover, he would also have been able to bring to the drafting of the Lanham Act a deep and sophisticated understanding of the provisions of the Inter-American Convention and their applicability in US courts as a self-executing treaty.

Rogers was fairly preoccupied with the topic of unfair competition law. He wrote one book⁵¹ and eight law review articles on the subject,⁵² as well as a book review,⁵³ a book foreword,⁵⁴ and a published speech.⁵⁵ He also drafted a “Uniform Code dealing with Unfair Competition”, which was an effort to distil the rules from US common law and to incorporate international developments of enumerated acts of unfair competition. This work became the basis of the chapter on unfair competition in the Inter-American Convention. Rogers understood GI protection as coming under the umbrella of unfair competition.

The unfair competition law that had developed in the United States prior to the convention had no difficulty in enjoining competitors’ false use of geographical terms. But these cases usually involved the following elements: (1) a geographic name with a developed reputation; (2) a false use of the place name; (3) a commercial injury to a competitor (diversion of sales and/or harm to reputation); and (4) a fraud on public.

A few untidy developments occurred in the doctrine, however. First, some cases allowed the false use of geographic term where the goods were clearly labelled with actual geographic origin.⁵⁶ Secondly, most of these cases involved plaintiffs who were themselves using the geographical term as a mark or a trade name and had been responsible for cultivating the reputation of the word. In fact, a few cases actually

⁴⁶ *Bacardi v Domench* 311 U.S. 150, 162–163 (1940).

⁴⁷ In the petitioner’s brief, he stated: “No special legislation implementing this treaty is necessary in the United States” (p.26).

⁴⁸ Keith M. Stolte, “A Response to Jerome Gilson’s Call for an Overhaul of the Lanham Act” (2004) 94 *Trademark Rep.* 1335, 1346–1348.

⁴⁹ Julius R. Lunsford Jr, “Foreword” (1972) 62 *Trademark Rep.* iv.

⁵⁰ Miles J. Alexander, “100th Anniversary Issue: Reflections of Former Editors-in-Chief” (2011) 101 *Trademark Rep.* 9, 9–10.

⁵¹ Edward S. Rogers, *Good-Will Trade-Marks and Unfair Trading* (Chicago: A.W. Shaw Company, 1914).

⁵² Edward S. Rogers, “Comments on the Modern Law of Unfair Trade” (1909) 3 *Ill. L. Rev.* 551; Edward S. Rogers, “Doctrine of Unfair Trade” (1909) 7 *Mich. L. Rev.* 409; Edward S. Rogers, “Predatory Price Cutting as Unfair Trade” (1913) 27 *Harv. L. Rev.* 139; Edward S. Rogers, “Unfair Competition” (1919) 17 *Mich. L. Rev.* 490; Edward S. Rogers, “Business Good-Will and Trade-Marks Nationally and Internationally Considered” (1939) 34 *Trademark Rep. Bull.* 281; Edward S. Rogers, “New Directions in the Law of Unfair Competition” (1940) 74 *N.Y. L. Rev.* 317 (1940); Edward S. Rogers, “Unfair Competition” (1945) 35 *Trademark Rep.* 126; Edward S. Rogers, “New Concepts of Unfair Competition under the Lanham Act” (1948) 38 *Trademark Rep.* 259.

⁵³ Rogers, “New Concepts of Unfair Competition under the Lanham Act” (1948) 38 *Trademark Rep.* 259.

⁵⁴ Walter J. Derenberg, *Trade-Mark Protection and Unfair Trading* (Albany: Matthew Bender and Co, 1936).

⁵⁵ Edward S. Rogers, “The Legal Side of Fair Trade”, Speech at the Annual Meeting of Association of National Advertisers Inc, 1937.

⁵⁶ At least one court still enjoins this use.

denied relief in cases where the plaintiffs could not show that they had developed trademark or trade name rights in the geographic word.⁵⁷

As Rogers knew well, the United States had protected GIs as early as 1870 through common law unfair competition principles. Yet he also knew, and as these cases themselves made clear, the US history of protecting geographical names is complicated and difficult to codify.

Conclusion

Conventional wisdom holds that the United States' main role in the development of protection for GIs has been to oppose new protections. But there is one significant fact that contradicts this story: In 1929 the United States ratified a plurilateral trademark convention that contained a chapter affording significant protections for GIs. Furthermore, it appears that the United States played a major role in drafting that chapter. Moreover, the protections contained in that chapter went well beyond any existing protections.

It is a shame that the Inter-American Convention and its chapter on GI protection has been forgotten by the international community. A stronger understanding of the US history of protecting GIs and its existing international commitments should aid trading partners in the current discussions of the competing approaches of the United States and the European Union. What this history demonstrates is that the United States has not historically been opposed to the protection of GIs and in fact has a long history of such protection. The existence of the Inter-American Convention and the legal developments that it enshrines could enrich the discussion of the available avenues for protecting GIs today.

⁵⁷ *New York & R Cement Co v Coplay Cement Co* 44 F. 277 (CC Pa 1890) (allowing the defendant to use the denomination "Rosendale Cement" for cement not manufactured in Rosendale or from the stone procured at Rosendale because the plaintiff did not have the exclusive right to use that place name); *California Apparel Creators v Wieder of California Inc* 162 F.2d 893 (2nd Cir. 1947) (allowing New York apparel manufacturers to continue to use the words "California" and "Californian" even though an Incorporated Trade Association and 75 of its members argued that they would be injured by such use).

Intellectual Property Law and Geospatial Information: Some Challenges

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☞ Data processing; Databases; Geography; Intellectual property; Licensing; Traditional knowledge

Introduction

Location-based information is now central to how societies function all over the world and is growing exponentially in both economic and social importance. Location-based services are a significant economic sector which is growing at an estimated 30 per cent per year.¹ The rapid evolution of digital technologies has facilitated not only the centralisation of huge quantities of spatially referenced data, but it has also changed how such information is created, represented and used. Spatial data infrastructures (SDIs) are the most common repositories of authoritative, location-based quantitative data, and they are used to serve practical national and international objectives. The digital revolution has also led to changes in both the type and *sources* of “authoritative” geospatial information.² As a result, there have been challenges to SDIs, in terms of both *what* and *whose* information should be included.³

This article examines the role of intellectual property (IP) law in shaping SDIs—those digital repositories of data that define and structure our understanding of physical space. We argue that IP law has played a role in determining how digital geospatial data are shared and used, and that it has become, of necessity, an element to be managed within SDIs. This is more than just a matter of the drafting of licensing agreements. IP law in this context is linked to notions of authority and authenticity. It plays an important role in defining the ever-shifting relationships between producers and users of geospatial data.

We begin this article with a brief introduction to SDIs. This is followed by an account of the different IP rights attached to spatial data and its representations. The article then examines how IP law defines and influences the relationships between producers and users of geospatial data. It also looks at how changes to the way in which geospatial data are collected requires an adaptation of more conventional IP approaches

¹ Oxera, *What Is the Economic Impact of Geo Services* (London: Oxera Consulting Ltd, 2013), available at http://www.oxera.com/Oxera/media/Oxera/downloads/reports/What-is-the-economic-impact-of-Geo-services_1.pdf [Accessed October 23, 2014].

² Abbas Rajabifard, Andrew Binns, Ian Masser and Ian P. Williamson, “The Role of Sub-National Government and the Private Sector in Future Spatial Data Infrastructures” (2006) 20 *Int’l J. Geographical Info. Sci.* 727.

³ Rajabifard et al. note that the evolution of SDIs and the increased role of the private sector may be leading to the incorporation of more ““people relevant” data” in SDIs. The authors also note the development of more bottom-up approaches to populating the data within SDIs. Rajabifard, Binns, Masser and Williamson, “The Role of Sub-National Government and the Private Sector in Future Spatial Data Infrastructures” (2006) 20 *Int’l J. Geographical Info. Sci.* 727, 736, 738. Elwood raises concerns about the appropriateness of data within SDIs to meet the needs of nongovernmental organisations and local communities, and she notes the greater role that public participatory geographic information system may play in geospatial knowledge. Sarah Elwood, “Grassroots Groups as Stakeholders in Spatial Data Infrastructures: Challenges and Opportunities for Local Data Development and Sharing” (2008) 22 *Int’l J. Geographical Info. Sci.* 71, 74. See also Sarah Elwood, Michael F. Goodchild and Daniel Sui, “Researching Volunteered Geographic Information: Spatial Data, Geographic Research, and New Social Practice” (2012) 102 *Annals of the Association of American Geographers* 571, 578–579. Note also the growing role of the private sector in the creation and maintenance of some SDIs.

to ownership and licensing. Finally, the article considers the particular case of traditional geographic knowledge (TGK), which raises issues not just of the scope and subsistence of IP rights, but also of the way in which IP rights may shape the relationship between providers and users of TGK. This topic is particularly challenging and under-researched.

Spatial data infrastructures

Historically, governments have played a dominant role in amassing spatial data. This is in part because of the high cost of collecting and compiling complete, complex and accurate geospatial data. It is also due to the fact that governments have a natural interest in and need for these data, which have applications for defence, service delivery, land ownership, resource development, environmental protection, planning and other governmental activities.⁴ While traditional representations of such information—maps, charts, surveys, plans and written accounts—were in physical and tangible forms, digital technologies have caused a tremendous shift in how such information is collected, recorded and represented. Not only does digitisation permit the representation of geospatial information in novel ways, it also allows for such information to be readily combined with other available information through the use of standards to create interoperability such as those being developed by the Open Geospatial Consortium (OGC).⁵ Because of this, spatial data are increasingly relevant to a diversity of private sector actors, nongovernmental organisations and ordinary individuals. The OGC, for example, is an industry-based organisation with 480 members most of which are from the private sector, but it also includes governments and academic institutions.⁶ The enormous potential for the integration of digital data from multiple sources carried out by a diversity of actors and for a broad range of purposes has been a driving force in creating SDIs.⁷

Defined functionally, an SDI

“use[s] electronic media to connect distributed repositories of geospatial information (GI) and make these available to users through a single entry point often called ‘geoportal’”.⁸

An SDI can be national,⁹ regional¹⁰ or international.¹¹ At the national level, for a broad range of public policy reasons, it is useful to gather, co-ordinate, standardise and consolidate different types of spatial data, and to facilitate their sharing not just between different levels of government but also between governments and other actors, including the private sector. At the regional or global level, SDIs are a

⁴ Elwood, Goodchild and Sui, “Researching Volunteered Geographic Information” (2012) 102 *Annals of the Association of American Geographers* 571, 576; Committee of Experts on Global Geospatial Information Management, “Monitoring Sustainable Development: Contribution of Geospatial Information to the Rio+20 Processes”, available at http://ggim.un.org/2nd%20Session/GGIM%20paper%20for%20Rio_Background%20paper_18May%202012.pdf [October 22, 2014]; Committee of Experts on Global Geospatial Information Management, *A Guide to the Role of Standards in Geospatial Information Management*, August 2014, available at http://ggim.un.org/docs/meetings/GGIM4/E-C20-2014-8_Essential%20Standards%20Guide%20for%20UNGGIM.pdf [Accessed October 23, 2014]; United Nations initiative on Global Geospatial Information Management, “Future Trends in Geospatial Information Management: The Five to Ten Year Vision”, available at <http://ggim.un.org/docs/Future-trends.pdf> [Accessed October 23, 2014].

⁵ Committee of Experts on Global Geospatial Information Management, “A Guide to the Role of Standards in Geospatial Information Management”, available at http://ggim.un.org/docs/meetings/GGIM4/E-C20-2014-8_Essential%20Standards%20Guide%20for%20UNGGIM.pdf [Accessed October 23, 2014].

⁶ Open Geospatial Consortium, <http://www.opengeospatial.org/> [Accessed October 23, 2014].

⁷ e.g. Ian Masser, *Governments and Geographic Information* (London: Taylor and Francis, 1998), p. 10.

⁸ Nama Raj Budhathoki, Bertram Bruce and Zorica Nedovic-Budic, “Reconceptualizing the Role of the User of Spatial Data Infrastructure” (2008) 72 *GeoJournal* 149, 149. Rajabifard and Williamson state that “an SDI is much more than data and goes far beyond surveying and mapping, it provides an environment within which organisations and/or nations interact with technologies to foster activities for using, managing and producing geographic data”. Abbas Rajabifard and Ian P. Williamson “Spatial Data Infrastructures: Concept, SDI Hierarchy and Future Directions” (2001) Proceedings of GEOMATICS’80 Conference, p.3, available at <https://minerva-access.unimelb.edu.au/handle/11343/33897> [Accessed October 23, 2014].

⁹ Examples of national SDIs include the US National Spatial Data Infrastructure (<https://www.fgdc.gov/nsdi/nsdi.html>), the National Spatial Data Infrastructure of India (http://dst.gov.in/scientific-programme/s-t_nsdi.htm), The Canadian Geospatial Data Infrastructure (<http://www.nrcan.gc.ca/earth-sciences/geomatics/canadas-spatial-data-infrastructure/8904>) and the Australian Spatial Data Directory (<http://asdd.ga.gov.au/asdd/>).

¹⁰ Examples of regional spatial data infrastructures include: the Infrastructure for Spatial Information in the European Community (INSPIRE) (<http://inspire.ec.europa.eu/>) and the Arctic SDI (<http://arctic-sdi.org/>).

¹¹ The Global Spatial Data Infrastructure Association (GSDI) operates as a kind of global clearinghouse of geospatial information and works towards promoting cooperation and collaboration internationally for the development of SDIs.

locus for the development of policies and technology standards that facilitate and co-ordinate the sharing of spatial data that in turn enables a broad range of regional or international co-operation and collaboration (from emergency response management to resource exploration, for example).¹²

While SDIs provide a technological and normative framework for spatial data, they have a substantive dimension as well. An SDI typically will provide a digital portal through which users may access spatial datasets. The substantive content of SDIs consists of spatial data. Defined narrowly, “spatial data” might mean datasets that delimit and describe the physical geography of places, but the concept has received a much broader definition and can include a wide spectrum of subject matter, including datasets regarding topographical features, demographics, the location of resources, utilities, roads and other infrastructure. Geospatial information management for which SDIs are developed is now a topic of interest for the United Nations, which in 2012 created a Committee of Experts on Global Geospatial Information Management to examine the integration of geospatial and statistical information.¹³ Spatial data include information about how land is used and by whom. While there is no limit to who can collect and compile spatial data (especially in a technological age that enables relatively low cost, readily usable mobile technologies), a large quantity of spatial data are still collected by national, state/provincial or local governments, and it is these sources that have traditionally been considered authoritative.

The concept of authoritativeness is closely linked to law. In some cases it is law that determines who may collect and record certain types of spatially referenced data. For example, most laws establishing land titles registries or cadasters specifically provide that only specified and certified professionals may conduct the land surveys that are to be part of the official record.¹⁴ Law or its institutions may also determine what information is authoritative in terms of defining state boundaries,¹⁵ or rights and entitlements to land.¹⁶ IP law is also used as a means of controlling access to and use of geospatial data in order to assure its quality and integrity. In some jurisdictions, for example, Crown copyright is alleged to serve this goal.¹⁷

A prime motivating factor for the creation of SDIs is the need to facilitate access to and use of the data—not just within a given government department (such as national defence or the environment), but across government, between all levels of government within a country, with the private sector and with governments worldwide. Thus, the technical and legal infrastructures of SDIs are a crucial part of their makeup. On the technical side, standards, protocols and metadata are all of great importance.¹⁸ The recent initiative to integrate geospatial data with official statistical data discussed earlier raises a host of new legal issues as both datasets are authoritative in their own right. The collection of official statistical information is also governed by laws, but detailed consideration of these issues is beyond the scope of this article. Suffice it to say that the challenges of legal interoperability in integrating these two authoritative

¹² Bastien van Loenen and Bas Kok, “Spatial Data Infrastructures: Legal and Economic Issues” in Bastien van Loenen and Bas Kok (eds), *Spatial Data Infrastructure and Policy Development in Europe and the United States* (Delft: DUP Science, 2004).

¹³ The United Nations Global Forum on the Integration of Statistical and Geospatial Information took place in the UN Headquarters in New York from August 4–5, 2014.

¹⁴ For example, Surveys Act, RSO 1990, c S.30 s.2, provides: “No survey of land for the purpose of defining, locating or describing any line, boundary or corner of a parcel of land is valid unless made by a surveyor or under the personal supervision of a surveyor.” A surveyor is defined as someone who is licensed to practice that profession under the Surveyors Act, RSO 1990, c S.29.

¹⁵ e.g. Haim Srebro (ed.), *International Boundary Making* (Helsinki: International Federation of Surveyors, 2013).

¹⁶ In the land claims context, Wainwright and Bryan have noted that “in order to qualify as legitimate in the courts, the maps and the case must adhere to the disciplinary norms of cartography and Western law”. Joel Wainwright and Joe Bryan, “Cartography, Territory, Property: Postcolonial Reflections on Indigenous Counter-Mapping in Nicaragua and Belize” (2009) 16 *Cultural Geographies* 153, 162.

¹⁷ e.g. David Vaver, “Copyright and the State in Canada and the United States” (1996) 10 *Intell. Prop. J.* 187, 192–195; Elizabeth F. Judge and Teresa Scassa, “Intellectual Property and the Licensing of Canadian Government Geospatial Data: An Examination of Geoconnections’ Recommendations for Best Practices and Template Licences” (2010) 54 *Canadian Geographer* 366, 371–372.

¹⁸ e.g. Natural Resources Canada, *Geospatial Standards and Policies for Interoperability*, 2014, available at http://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earth-sciences/files/pdf/geomatics/geospatial_standards_eng.pdf; Natural Resources Canada, *Digital Geospatial Metadata*, 2013, available at <http://www.nrcan.gc.ca/node/8912> [Accessed October 23, 2014].

datasets are daunting. On the legal side, concerns have also been raised regarding liability,¹⁹ privacy²⁰ and IP.²¹ Since many governments have traditionally asserted IP rights in their data,²² the licensing of such data has been an important preoccupation in the development of SDIs.

Intellectual property rights and SDIs

Because IP law defines property rights in intangibles, it is relevant in determining what “facts” or “information” form part of the public domain and what information or fact-based works owe their existence to human intellect and endeavour. In this sense, IP law defines what is proprietary and what is not within the realm of geospatial data. While this is often seen as a public domain/proprietary dichotomy, it can be more complex. For example, like other forms of traditional knowledge (TGK)²³ may fall between conventional IP cracks. Not only are there important epistemological issues regarding the inclusion of TGK in SDIs, the approach of SDI authorities to the dissemination and sharing of geospatial data may not be well adapted to the particular circumstances of TGK.²⁴ For example, the shift towards open licensing of spatial datasets to facilitate virtually unlimited reuse of the data may not adequately address concerns of TGK holders who wish to share their information only within certain parameters or for certain purposes. To the extent that facts are considered to fall within the public domain, there may also be a tension between those who would conceive of TGK as a collection of facts and those who conceive of it differently.

IP law also creates barriers to access and use through the provision of exclusive rights to exclude and to control. IP rights in geospatial data have been asserted by governments to develop information resources,²⁵ to attempt to ensure data quality or integrity,²⁶ or to support cost-recovery or for-profit models of revenue generation.²⁷ Indeed, many nations have started from a position that spatial data are their IP. They have

¹⁹ Liability for providing faulty geospatial information is a widespread preoccupation. e.g. Jennifer A. Chandler and Katherine Levitt, “Spatial Data Quality: The Duty to Warn Users of Risks Associated with Using Spatial Data” (2011) 49 *Alberta L. Rev.* 79; George Cho, *Geographic Information Science: Mastering the Legal Issues* (Chichester: John Wiley and Sons, 2005); Harlan J. Onsrud, “Liability in the Use of Geographic Information Systems and Geographic Data Sets” in David J. Maguire, Michael F. Goodchild, David W. Rhind and Paul A. Longley (eds), *Geographic Information Systems: Principles, Techniques, Management, and Applications* (New York: Wiley, 1999); Edward S. Robson, *Responding to Liability: Evaluating and Reducing Tort Liability for Digital Volunteers* (Washington DC: Wilson Center, Commons Lab, Policy Series, 2013), Vol.1; Teresa Scassa “Legal Issues with Volunteered Geographic Information” (2013) 57 *Canadian Geographer* 1.

²⁰ e.g. Cho, *Geographic Information Science* (2005); Stefan Kulk and Bastien van Loenen, “Brave New Open Data World?” (2012) 7 *Int’l J. Spatial Data Infrastructures Res.* 196; Teresa Scassa “Geographic Information as Personal Information” (2010) 10 *Oxford U. Commonwealth L.J.* 185.

²¹ Intellectual property concerns have been central to the creation of SDIs, in large part because intellectual property restrictions can pose a significant barrier to the sharing and reuse of such data. e.g. Harlan J. Onsrud, “The Role of Law in Impeding and Facilitating the Sharing of Geographic Information” in Harlan J. Onsrud and Gerard Rushton (eds), *Sharing Geographic Information* (New Brunswick: Center for Urban Policy Research, 1995); Harlan J. Onsrud, Gilberto Camara, James Campbell and Narmindi Sharad Chakravarthy, “Public Commons of Geographic Data: Research and Development Challenges” in Max J. Egenhofer, C. Freksa and Harvey J. Miller (eds), *GIScience 2004* (Berlin: Springer Verlag, 2004); Bastien van Loenen, “Developing Geographic Information Infrastructures: The Role of Access Policies” (2009) 23 *Int’l J. Geographical Info. Sci.* 195.

²² There is a patchwork approach to government intellectual property rights (which may include copyright and database rights) in compilations of data produced by the government. Countries such as Canada, Australia, New Zealand and the United Kingdom have Crown copyright, which entitles the government to assert copyright in its “works”. In some European countries governments assert similar rights, although others (e.g. France, Belgium or the Netherlands) may assert rights only over certain categories of works (including compilations of data). Other European countries, such as Austria and Germany, assert no rights over works created by the government. Katleen Janssen, “INSPIRE: Information Policy Issues of the European Spatial Data Infrastructure”, URISA International Conference, 2006, available at <https://lirias.kuleuven.be/handle/123456789/92887> [Accessed October 20, 2014]. Under the US Copyright Act, “Copyright protection under this title is not available for any work of the United States Government, but the United States Government is not precluded from receiving and holding copyrights transferred to it by assignment, bequest, or otherwise.” 17 U.S.C. § 105 (2012) (emphasis added). This exclusion from copyright protection does not apply to state or municipal governments, which may assert copyright in their compilations of data.

²³ This term is used to refer to traditional knowledge with an explicit geographic dimension. This may include traditional place names, knowledge of animal migration routes, knowledge of traditional hunting or trading routes, and information about other traditional land uses.

²⁴ Teresa Scassa, D.R. Fraser Taylor and Tracey Lauriault, “Cybercartography and Traditional Knowledge: Responding to Legal and Ethical Challenges” in D.R. Fraser Taylor and Tracey Lauriault (eds), *Developments in the Theory and Practice of Cybercartography: Applications and Indigenous Mapping* (Amsterdam: Elsevier, 2014).

²⁵ For example, the Canadian Government has, in the past, given exclusive licences to some of its geospatial data to the private sector with a view to supporting their production of information-based tools. e.g. Teresa Scassa, “Table Scraps or a Full Course Meal? The Public Domain in Canadian Copyright Law” in *Intellectual Property at the Edge: New Approaches to IP in a Transsystemic World* (Montreal: Editions Yvon Blais, 2007).

²⁶ Teresa Scassa, “Public Transit Data through an Intellectual Property Lens: Lessons about Open Data” (2014) 41 *Fordham Urban Law Journal* (forthcoming).

²⁷ e.g. David Rhind, “Data Access, Charging and Copyright and Their Implications for Geographical Information Systems” (1992) 6 *Int’l J. Geographical Info. Sys.* 13.

asserted copyright in their spatial datasets and in representations of those data in other forms such as in maps or charts.²⁸ The Ordnance Survey of the United Kingdom is a prime example of this position and has pursued its copyright position vigorously.²⁹ As technology has evolved, such claims have extended to digital compilations of data, and in some cases, claims to rights may extend to the underlying data,³⁰ notwithstanding the contentious nature of such claims.³¹ While copyright in original maps, charts and plans has long been recognised,³² it is also generally accepted that the facts reproduced in or on such documents are in the public domain.³³ The ever-present tension between the protection for these representations of facts but not the underlying facts themselves has become more acute in the digital age.

Although facts have long been excluded from protection under copyright law,³⁴ copyright law has protected the authorial effort involved in the creation of compilations, including compilations of fact.³⁵ This led to sometimes conflicted case law regarding the nature and degree of the authorial effort required for a finding of originality in a compilation of non-original facts. In the early 1990s, the Supreme Court decision of *Feist Publications Inc v Rural Telephone Service Co*³⁶ moved the United States towards a more settled understanding that copyright protection would not be automatic for compilations of fact. Since the underlying facts in a database are not “authored”, the authorial element—the originality in the compilation—must be found in the manner in which the facts are selected or arranged.³⁷ Yet the open question of what constitutes sufficient originality in any given compilation has left the availability and scope of protection unclear.³⁸ This lack of clarity has increased with digitisation, leading, for example, to questions such as whether large, electronic databases could have the requisite originality for copyright protection.³⁹ Further, with the automated and distributed modes of compilation of some large datasets, it can be increasingly difficult to identify an author of the compilation. Without an author, there is no basis

²⁸ e.g. Cho, *Geographic Information Science* (2005).

²⁹ e.g. Ordnance Survey, “Centrica and Ordnance Survey Settle AA Copyright Case”, available at <http://www.ordnancesurvey.co.uk/about/news/2001/centrica.html> [Accessed October 20, 2014].

³⁰ e.g. Elizabeth F. Judge and Teresa Scassa, “Intellectual Property and the Licensing” (2010) 54 *Canadian Geographer* 366, 369. In a recent Canadian Federal Court of Appeal decision on an interim application, the court considered an apparent claim to rights in data in a Canadian government licence. The court expressed puzzlement at this claim, and in *obiter*, stated: “Either the parties were unaware that copyright could not subsist in information (which we would not presume), or they understood the phrase ‘CHS [Canadian Hydrographic Service] Data’ by necessary implication to mean or at least include the CHS Works, even though the definition of ‘CHS Data’ in the licence seems to limit its meaning to ‘data’.” *Nautical Data International Inc v C-Map USA Inc* [2013] FCA 63 at [13].

³¹ Judge and Scassa, “Intellectual Property and the Licensing” (2010) 54 *Canadian Geographer* 366.

³² Article 2(1) of the Berne Convention for the Protection of Literary and Artistic Works enumerates the list of works protected by copyright, including “illustrations, maps, plans, sketches and three-dimensional works relative to geography, topography, architecture or science”.

³³ e.g. *Hodge E. Mason v Montgomery Data Inc* 967 F. 2d 135 (5th Cir. 1992).

³⁴ Article 2(8) of the Berne Convention provides: “The protection of this Convention shall not apply to news of the day or to miscellaneous facts having the character of mere items of press information.” While this exclusion from the protection of facts seems to be primarily in the context of news reporting, courts have generally excluded facts from the protection of copyright, placing them squarely within the public domain. For example, in *Feist Publications Inc v Rural Telephone Service Co* 499 U.S. 340, 347 (1991), Justice O’Connor stated that facts “do not owe their origin to an act of authorship” and therefore could not be protected by copyright law. The Australian High Court in *IceTV Pty Ltd v Nine Network Australia Pty Ltd* [2009] HCA 14 at [28] stated that copyright “does not confer a monopoly on facts or information because to do so would impede the reading public’s access to and use of facts and information”. The Supreme Court of Canada has confirmed that facts are not protected by copyright law in Canada. e.g. *CCH Canadian Ltd v Law Society of Upper Canada* 2004 SCC 13 at [22].

³⁵ Article 17(1)(b) of the North American Free Trade Agreement provides for the protection of compilations including compilations of data. Article 10(2) of the Agreement on Trade-Related Aspects of Intellectual Property Rights does that as well. The provision reads: “Compilations of data or other material, whether in machine readable or other form, which by reason of the selection or arrangement of their contents constitute intellectual creations shall be protected as such. Such protection, which shall not extend to the data or material itself, shall be without prejudice to any copyright subsisting in the data or material itself.” At best, this sends a mixed message about the protection available for the data within a compilation. However, case law in many jurisdictions has confirmed that facts are in the public domain.

³⁶ *Feist* 499 U.S. 340, 347 (1991).

³⁷ In *Feist*, the court found that the data contained in a telephone directory resulted neither from an original selection of data (the data to be included was dictated by the conditions of the telephone service monopoly) nor from an original arrangement (alphabetical ordering was considered to be “entirely typical”). 499 U.S. 340, 362.

³⁸ In some cases, sufficient originality can be found. e.g. *Key Publications Inc v Chinatown Today Publishing Enterprises, Inc* 945 F. 2d 509 (2nd Cir. 1991); *CCC Information Services v Maclean Hunter Market Reports* 44 F.3d 61 (2d Cir 1994). See David E. Shipley “Thin but not Anorexic: Copyright Protection for Compilations and Other Fact Works” (2007) 15 J. Intell. Prop. L. 91.

³⁹ Judge and Scassa, “Intellectual Property and the Licensing” (2010) 54 *Canadian Geographer* 366, 370 (suggesting that “whole of universe” sets of data may lack sufficient originality in the selection of the data to be included); William M. Landes and Richard A. Posner, *The Economic Structure of Intellectual Property Law* (Cambridge, MA: Belknap Press, 2003), p.104 (suggesting that large electronic databases lack sufficient originality in their arrangement).

for copyright protection.⁴⁰ Other novel types of spatial data—including real-time Global Positioning System streaming data and predictive data—have raised new questions about the extent to which protection is available.⁴¹

In the period following the *Feist* decision in the United States, the European Union (EU) issued the EU Database Directive. This Directive created a new sui generis IP right in databases. Protection for a database under this right is available only where there has been a “substantial investment”⁴² in obtaining or verifying the data contained within the database.⁴³ While this may preclude the protection of some datasets, important geospatial datasets will be protected because of the resources required to collect the data. The right is violated when there has been an extraction or re-utilisation of the whole or a substantial part of the database.⁴⁴ Substantiality may be assessed either qualitatively or quantitatively.⁴⁵ While the 15-year term of protection appears more limited than copyright protection, fresh terms are available for substantially updated databases, opening up the possibility for near-perpetual protection of regularly updated geospatial datasets. According to the Database Directive, EU Member States may also choose to extend the rights to authors who are “legal persons”,⁴⁶ thus circumventing the authorship issue that can arise in the protection of compilations of fact in copyright law. As a result, the protection available to compilations of data in EU states is different from and more certain than in those countries that rely predominantly upon copyright law.

The split over IP rights in databases between Europe on the one hand and countries relying predominantly on copyright law on the other creates a further layer of complexity to the sharing of data obtained through SDIs. Indeed, the assertion of IP rights in spatial data generally has led to barriers to sharing.⁴⁷ As a result, it has limited the usefulness of some spatial datasets in meeting goals of spurring innovation and increasing efficiencies particularly beyond the government context. This in turn has fueled a movement which, over the last 25 years, has urged governments towards the creation of SDIs in which the available data are, as far as possible, made available under open licences.⁴⁸ This drive towards open geospatial data shares many of the same challenges confronting open government data more generally: the need to develop appropriate terms for the open licensing of government information,⁴⁹ the need for the legal interoperability of open

⁴⁰ e.g. *Telstra Corporation Ltd v Phone Directories Company Pty Ltd* [2010] FCA 44.

⁴¹ Larry W. Thomas, *Legal Research Digest 37: Legal Arrangements for Use and Control of Real-Time Data* (Washington DC: Transportation Research Board of the National Academies, 2011), available at <http://www.trb.org/Publications/Blurbs/165626.aspx> [Accessed October 22, 2014].

⁴² European Parliament and Council Directive 96/9 of March 11, 1996 on the legal protection of databases [1996] O.J. L77/20, art.7(1) (Database Directive).

⁴³ e.g. *British Horseracing Board Ltd v William Hill Organisation Ltd* (C-203/02) [2004] E.C.R. I-10415; *Fixtures Marketing Ltd v Organismos Prognostikon Agonon Podosfairou (OPAP)* (C-444/02) [2004] E.C.R. I-10549.

⁴⁴ Database Directive art.7(2).

⁴⁵ *British Horse Racing Board* [2004] E.C.R. I-10415 at [71]–[72].

⁴⁶ Database Directive art.4(1).

⁴⁷ e.g. Onsrud, “The Role of Law in Impeding and Facilitating the Sharing of Geographic Information” in Onsrud and Rushton (eds), *Sharing Geographic Information* (1995); David L. Tulloch and Francis Harvey, “When Data Sharing Becomes Institutionalized: Best Practices in Local Government Geographic Information Relationships” (2007) 19 *URISA J.* 51. Other barriers to the sharing of spatial data include technological restrictions and a lack of common standards.

⁴⁸ e.g. Onsrud, “The Role of Law in Impeding and Facilitating the Sharing of Geographic Information” in Onsrud and Rushton (eds), *Sharing Geographic Information* (1995); Harlan J. Onsrud, Jeffrey P. Johnson and Judy Winnecki, “GIS Dissemination Policy: Two Surveys and a Suggested Approach” (1996) 8 *J. Urban and Regional & Info. Sys.* 8; Harlan J. Onsrud, “The Role of Law” in Onsrud and Rushton (eds), *Sharing Geographic Information* (1995); Group on Earth Observations, “Report of Data Sharing Working Group: Document 13”, Annex B, available at https://earthobservations.org/documents/geo_ix/13_Report%20of%20Data%20Sharing%20Working%20Group.pdf [Accessed October 22, 2014].

⁴⁹ In the UK, the Open Government Licence (<https://www.nationalarchives.gov.uk/doc/open-government-licence/>) was developed to specifically address the licensing of government information. Canada has adapted this licence in creating its own (<http://data.gc.ca/eng/open-government-licence-canada>). Other jurisdictions, such as Australia and New Zealand, have chosen instead to use Creative Commons licences. Australian National Data Service, “AusGoal—Australian National Governments Open Access and Licensing Framework”, available at <http://ands.org.au/guides/ausgoal-awareness.pdf> [Accessed October 22, 2014]; “New Zealand Government Open Access and Licensing (NZGOAL) Framework”, available at <https://ict.govt.nz/guidance-and-resources/open-government/new-zealand-government-open-access-and-licensing-nzgoal-framework/> [Accessed October 22, 2014].

licences,⁵⁰ and the need to evaluate the implications of openness and unrestricted sharing. These latter may include considerations around cost recovery,⁵¹ national security,⁵² privacy⁵³ and liability.⁵⁴

IP law, by defining property rights that can then be controlled by licences, plays a role in structuring who has access to different datasets, and under what terms and conditions. In this sense, although open licensing is a means by which states can encourage re-use of data for public policy purposes, such licences are also used to manage other legal preoccupations of government data providers, such as privacy and liability.⁵⁵

In addition to copyright and database rights in spatial datasets, other IP rights may play a role in the digital environment. Both copyright and patent rights may extend to the software that sorts and organises or that enables searches for data.⁵⁶ There may be separate IP rights in the platforms on which geospatial data are stored, represented and/or displayed.⁵⁷ These additional IP rights are not necessarily owned by governments, and their presence within SDIs, along with the layering of rights, can lead to additional complexities in the relationships between different SDI stakeholders and any resultant uses of geospatial data. In addition, the gathering and representation of spatial data is no longer more or less exclusively within the control of governments. Increased public-private collaborations and growing government reliance on private sector initiatives may also lead to a layering of rights. As government policies shift towards widespread dissemination with a view to encouraging re-use for public policy purposes that include the encouragement of innovation, the complex layers of IP rights present new challenges—to both the ability of governments to achieve their objectives and the ability of the user communities to make full use of geospatial data resources.

New modes of spatial data collection

SDIs are typically created by government entities or, in the case of regional SDIs, by collaborating governments.⁵⁸ In this context, much spatial data housed in SDIs reflects priorities, norms or assumptions that dovetail with a particular government's needs, agenda and even ideology.⁵⁹ They reflect traditional assumptions concerning what data are relevant and how they should be represented. At the same time, the wide availability of sophisticated geolocation tools and their ease of use have given rise to phenomena such as neogeography⁶⁰ and public participatory geographic information system (PPGIS).⁶¹ Both of these

⁵⁰ Harlan J. Olsrud, "Legal Interoperability in Support of Spatially Enabling Society" in Abbas Rajabifard, Joep Crompvoets, Mohsen Kalantari and Bas Kok, *Spatially Enabling Society: Research, Emerging Trends and Critical Assessment* (Leuven: Leuven University Press, 2010); Kent Mehwort, "Creative Commons Licences: Options for Canadian Open Data Providers", pp.18–20, available at <https://www.cippic.ca/sites/default/files/Creative%20Commons%20Licenses%20-%20Options%20for%20Canadian%20Open%20Data%20Providers.pdf>. [Accessed October 22, 2014].

⁵¹ Ian Masser, *Governments and Geographic Information* (London: Taylor and Francis, 1998), pp.15–16.

⁵² e.g. John C. Baker, Beth E. Lachman, David R. Frelinger, Kevin M. O'Connell, Alexander C. Hou, Michael S. Tseng, David T. Orletsky and Charles W. Yost, *Mapping the Risks: Assessing the Homeland Security Implications of Publicly Available Geospatial Information* (Santa Monica: RAND Corp, 2004).

⁵³ e.g. Kulk and van Loenen, "Brave New Open Data World?" (2012) 7 Int'l J. Spatial Data Infrastructures Res. 196; Scassa, "Geographic Information as Personal Information" (2010) 10 Oxford U. Commonwealth L.J. 185; Teresa Scassa, "Privacy and Open Government" (2014) 6 *Future Internet* 397.

⁵⁴ Jennifer A. Chandler, "Harmful Information: Negligence Liability for Incorrect Information" in Rodolphe Devillers and Helen Goodchild, *Spatial Data Quality: From Process to Decisions* (Boca Raton: CRC Press, 2010), pp.221–222; Chandler and Levitt "Spatial Data Quality" (2011) 49 *Alberta L. Rev.* 79.

⁵⁵ For example, the UK Open Government Licence (<https://www.nationalarchives.gov.uk/doc/open-government-licence/>) includes restrictions on use based on public sector data protection legislation. It also includes a disclaimer of liability.

⁵⁶ e.g. *Assessment Technologies of WI, LLC v WIREdata Inc* 350 F.3d 640 (7th Cir 2003); *Corsearch Inc v Thomson & Thomson* 792 F. Supp 305 (S.D.N.Y. 1992).

⁵⁷ Adam Saunders, Teresa Scassa and Tracey Lauriault, "Legal Issues in Maps Built on Third Party Base Layers" (2012) 66 *Geomatica* 279.

⁵⁸ In the case of the EU, the spatial data infrastructure known as INSPIRE was established by Directive 2007/2 of March 14, 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE). Globally, the Global Spatial Data Infrastructure Association (<http://www.gsdi.org>) is a multi-stakeholder organisation aimed at supporting the development of geospatial data infrastructures locally, nationally and internationally.

⁵⁹ Rob Kitchen and Tracey P. Lauriault "Towards Critical Data Studies: Charting and Unpacking Data Assemblages and Their Work" in J. Eckert, A. Shears and J. Thatcher (eds), *Geoweb and Big Data* (Lincoln: University of Nebraska Press) (forthcoming).

⁶⁰ Michael Goodchild, "NeoGeography and the Nature of Geographic Expertise" (2009) 3 *J. Location Based Services* 82.

⁶¹ Marc Schlossberg and Eliot Shuford "Delineating 'Public' and 'Participation' in PPGIS" (2005) 16 *URISA J.* 15.

phenomena are part of the broader crowdsourcing movement, and they reflect a bottom-up rather than top-down approach—not just to data gathering, but to the choice of subject and its representation.

The rise of neogeography and PPGIS means that governments no longer have the more or less exclusive control over the development of geospatial information that they once did. Projects like Open Street Map (OSM), for example, have turned map-making on its head, with volunteer cartographers representing their own neighbourhoods and cities. Because of its bottom-up methodology, OSM has led, in many instances, to the mapping of features that have not been of interest in top-down governmental mapping initiatives.⁶² There are also instances where OSM has led to the mapping of places unmapped by state authorities,⁶³ or in need of rapid, responsive mapping.⁶⁴ Because OSM offers an open access mapping platform, and because it may also offer more textured local mapping—and in some cases, even more up-to-date mapping—it is now being used, formally and informally, by governments for their own purposes.⁶⁵

Phenomena such as volunteered geographic information (VGI) and crowdsourcing have evolved from casual experiments to models that challenge traditional methods of data collection.⁶⁶ In digital form, spatial data are diverse, abundant and supple. Digital technologies also offer new ways to represent information, allowing for layered, interactive and multi-media cybercartography.⁶⁷ Today there is a growing number of stakeholders who are not simply users, but also collectors and compilers of spatial data. The shift towards a multiplicity of data sources is facilitated by the technological advances that make SDIs possible. At the same time, it challenges assumptions about the nature and objectivity of “authoritative” data. It also undermines the state’s role as the predominant, if not exclusive, source of geospatial data.

As the modalities for the creation of geospatial data change, IP will play a role in determining the boundaries or nature of ownership, particularly where data are generated through different forms of collaboration, whether it is between government and the private sector or through collaborative or crowd-sourced initiatives. For example, VGI as a means of generating, completing, revising or correcting geospatial datasets is of growing interest to many governments.⁶⁸ In these contexts, IP issues are also relevant to the usability of compiled data. Depending upon the mapping project, contributors may be asked to assign their rights to their contributions to the mapping project, or simply to provide a non-exclusive licence to use their contributions.⁶⁹ Large-scale integration of data from projects such as OSM must comply with the particular terms of their licences, and there is a growing concern regarding the legal interoperability of a profusion of open licences.⁷⁰ These different arrangements with respect to IP define and structure the relationships among contributors, those controlling the base map and downstream users of the maps and their data.

⁶² For example, OSM maps feature items of particular interest to different users, including footpaths, cycle paths, the location of public water fountains, and so on.

⁶³ Goodchild, for example, notes that some state mapping agencies lack the resources to carry out regular mapping activities. Michael F. Goodchild “Citizens as Sensors: The World of Volunteered Geography” (2007) 69 *GeoJournal* 211, 217.

⁶⁴ OSM was used to create a map of Haitian street networks immediately following the devastating earthquake in 2010. Barbara S. Poore and Eric B. Wolf, “Metadata Squared: Enhancing Its Usability for Volunteered Geographic Information and the Geo Web” in Daniel Sui, Sarah Elwood and Michael Goodchild (eds), *Crowdsourcing Geographic Knowledge: Volunteered Geographic Information (VGI) in Theory and Practice* (Dordrecht: Springer, 2013), pp.55.

⁶⁵ Mordechai Haklay, Vyrion Antoniou, Sonia Basiouka, Robert Soden and Peter Mooney, *Crowdsourced Geographic Information Use in Government* (London: World Bank, 2014).

⁶⁶ e.g. David J. Coleman, “Potential Contributions and Challenges of VGI for Conventional Topographic Base-Mapping Programs” in Sui, Elwood and Goodchild (eds), *Crowdsourcing Geographic Knowledge* (2013).

⁶⁷ For a detailed examination of cybercartography, see D.R. Fraser Taylor and Tracey Lauriault (eds), *Developments in the Theory and Practice of Cybercartography: Applications and Indigenous Mapping* (Amsterdam: Elsevier 2014).

⁶⁸ Haklay et al., *Geographic Information Use in Government* (2014); Peter A. Johnson and Renee E. Sieber, “Situating the Adoption of VGI by Government” in Sui, Elwood and Goodchild (eds), *Crowdsourcing Geographic Knowledge* (Dordrecht: Springer, 2013).

⁶⁹ Adam Saunders, Teresa Scassa and Tracey P. Lauriault, “Legal Issues in Maps Built on Third Party Base Layers” (2012) 66 *Geomatica* 279.

⁷⁰ Kent Mehwort, “Creative Commons Licenses: Options for Canadian Open Data Providers”, available at <https://www.cippic.ca/sites/default/files/Creative%20Commons%20Licenses%20-%20Options%20for%20Canadian%20Open%20Data%20Providers.pdf> [Accessed October 22, 2014].

Traditional geographic knowledge and SDIs

The same technologies that have given rise to neogeography and PPGIS have also offered new ways of recording and representing TGK. TGK may be significantly different from the type of spatial data endorsed by Western scientific principles. These differences may be in subject-matter, perspective, form, structure or methodology. Traditional geographic knowledge may relate to traditional uses of land over time, to knowledge of local fauna or ecology, knowledge of the location and migration of species, and knowledge of traditional place names in local languages. In some cases, it may even challenge basic assumptions about land and territory—for example, the occupation and use of sea ice by Northern peoples may represent an entirely different vision of Northern territories.⁷¹ Indeed, pressure is growing to have SDIs be open to information that may not conform to Western methods for its creation or recording, or that is unconventional in terms of its topic, emphasis or approach. IP law will play a role in negotiating the challenging ethical⁷² and epistemological issues regarding the incorporation of local and traditional knowledge into SDIs, particularly at the regional or global level.

While respect for and openness towards TGK militate in favour of its inclusion in SDIs, such inclusion may pose interesting IP challenges. For example, to the extent that geographical knowledge is characterised as factual, it is not capable of IP ownership, yet the nature and form of TGK may distinguish it from public domain “facts”. In addition, novel modes of collecting and recording oral TGK—through cybercartography, for example—may give rise to copyright protection, although copyright may reside somewhere other than with the community members who have provided the information.⁷³ Thus, the process by which local or traditional knowledge is converted into recorded geospatial information that can be incorporated into an SDI is one that raises IP issues that relate to the relationships between those who provide the information and those who compile or record it. At a second level, the push towards open data within SDIs to enhance the greater sharing and interoperability of datasets may conflict with community views regarding their rights to control their traditional knowledge and may therefore contribute to the deeply problematic legacy of the exploitation of indigenous communities. It has already been accepted that some forms of traditional knowledge have cultural/community significance, and there are also legacies of abuse and exploitation that may warrant imposing either limits on sharing or some sort of acknowledgement or recompense for reliance on this information. These complex and interwoven issues of IP law and ethics are challenges which may confront any SDI, whether national, regional or global, that seeks to integrate local or traditional geographical knowledge.

Conclusion

Like many developments in the rapidly advancing computer field, technology is far ahead of the legal efforts to address the challenges of the use of location-based information. Although significant progress is being made in addressing the many issues involved, including the challenges of legal interoperability, multiple unanswered questions remain.

IP has provided a basis on which many of these issues can be addressed, in part by grounding state claims to geospatial data in terms of IP rights, which can then be used for instrumental purposes ranging from control, accuracy and cost recovery in the early days to relatively open dissemination today. Yet states’ roles in relation to geospatial information go beyond their relationships with the broader community of stakeholders as licensor; new bottom-up modes of creation and dissemination of geospatial information,

⁷¹ Gita J. Lubjicic, Peter L. Pulsifer, Amos Hayes and D.R. Fraser Taylor, “The Creation of the Inuit Siku (Sea Ice) Atlas” in D.R. Fraser Taylor and Tracey Lauriault (eds), *Developments in the Theory and Practice of Cybercartography: Applications and Indigenous Mapping* (Amsterdam: Elsevier, 2014).

⁷² Tim Di Leo Browne and Gita J. Lubjicic, “Considerations for Informed Consent in the Context of Online, Interactive, Atlas Creation” in Taylor and Lauriault (eds), *Developments in the Theory and Practice of Cybercartography* (2014).

⁷³ For example, the copyright in an interview may reside with the party who fixes the interview and not with the interviewee, even if the content of the interview is a recounting of oral traditional knowledge. e.g. David Vaver, *Intellectual Property Law*, 2nd edn (Toronto: Irwin Law, 2011), p.106.

as well as challenges to the traditional state monopolies on “authoritative” geospatial information, have altered traditional relationships. The evolving relationships between data sources and data users, and the absence of a strict dichotomy between the two, are evidenced in the simultaneously evolving ways in which the rights to access and use geospatial data are negotiated.

The Territoriality Referendum

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☞ Blocking injunctions; Copyright; Geographic areas; Intellectual property; Online services; Territorial application; Websites

Introduction

Internet users are participating unconsciously in an informal—but very important—referendum on the future of the territoriality of intellectual property rights (IPRs),¹ particularly copyright. Users cast their votes in this referendum through their use of tools that enable them to evade geoblocking. Geoblocking is used by content providers on the internet² for the purpose of geographically limiting user access to content, often because of territorial limitations that relate to IPR protection.

The degree to which users evade geolocation will influence how governments and the private sector regard the future of the territoriality of IPRs. Although the results of the informal referendum might not result in a dramatic departure from the notion of IPRs as territorially constrained rights, the results might prompt governments to consider novel legal approaches to IPRs and inspire the private sector to develop new business models to bridge countries' borders and provide greater cross-border access to IPR-protected works.

Territorial rights on the internet

Since the beginnings of the commercial internet in the mid-1990s, many commentators have viewed the internet as a significant challenge to the territoriality of IPRs. The architecture of the network did not seem to enable an emulation of the territorial constraints that exist in the physical world, and therefore the architecture did not allow the limiting of access to the objects of IPR protection within a country's borders.³ Although the infrastructure of the internet—cables, servers, routers, switches etc.—is as physical as the infrastructure of other older media and means of communication,⁴ such as the telegraph and telephone, the internet opened a new and unprecedented space that appeared to be completely devoid of physical substance and territorial boundaries.⁵

Notwithstanding the excitement about the internet's ability to defy territorial limits and challenge territorial regulation, some commentators doubted that the internet would bring an end to the territoriality

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¹ The territoriality of IPRs means that IPRs exist only within the limits of the prescriptive jurisdiction of each country whose national laws create the IPRs.

² This article uses the term “internet” to refer to the worldwide network of interconnected devices, regardless of the protocol used for a connection.

³ On the origins of Internet architecture, see, for example, Baran Paul, “On Distributed Communications: I. Introduction to Distributed Communications Networks”, August 1964, RAND Corporation, Memorandum RM-3420-PR; Janet Abbate, *Inventing the Internet* (Cambridge, MA: MIT Press, 2000); Jack L. Goldsmith and Tim Wu, *Who Controls the Internet?: Illusions of a Borderless World* (New York: Oxford University Press, 2006), pp.22–23.

⁴ For an illuminating and accessible description of the physical infrastructure of the internet, see Andrew Blum, *Tubes: A Journey to the Center of the Internet* (New York: Harper Collins, 2012).

⁵ For an overview of the early discussions about the internet, see Dan Jerker B. Svantesson, *Private International Law and the Internet*, 2nd edn (Alphen aan den Rijn: Kluwer Law International, 2012), pp.1–3.

principle of IPRs.⁶ These commentators correctly predicted that, with sufficiently strong interests at stake, the architecture of the network would yield to the territoriality principle, and means would eventually emerge to allow a replication on the internet of the territorial limitations of the physical world.⁷

The interests were indeed very strong, and countries would not relinquish their power to regulate and enforce their laws simply because the internet space overlapped with their sovereign territory and also happened to be borderless.⁸ Instead of hesitating to regulate activities on the internet, countries asserted jurisdiction over internet activities without any territorial limits. In what was termed the rule of “cyberlaw 2.0”,⁹ countries prescribed their laws with de facto global effect on the internet. To the extent that they could, they also enforced their laws on the internet globally.

It was in the shadow of cyberlaw 2.0 that important technologies—geolocation technologies—proliferated to enable internet actors such as content providers and intermediaries to identify the physical locations from which users connect to the internet.¹⁰ Propelled by various motivations, including a benign desire to offer localised advertising and detect potential credit card fraud, the technologies initially used internet protocol (IP) addresses, and later additional data points, to localise users in the physical world.¹¹ The technologies make it possible to supply local content—for example, to display advertisements that are geographically tailored to an internet user’s physical location and assist in fraud prevention.

Geolocation also facilitated geoblocking—the blocking of access to internet content to users connecting to the internet from, or outside of, a certain territory. Geoblocking establishes true borders on the internet; it enables internet actors to partition markets for the purposes of maintaining price differentiation, meeting contractual obligations and/or complying with countries’ territorial laws and regulations. For example, sellers of electrical equipment can limit their sales to countries in which their equipment meets required safety and/or other standards, and online gambling providers who are licensed in a jurisdiction can limit online betting to users connecting from that jurisdiction.¹² Geoblocking also assists in the effective policing of territorial IPR licensing conditions. With geoblocking, licensing for a certain territory becomes enforceable on the internet, because a licensee can limit access to licensed content to users connecting from the territory for which the licensor has granted a licence.

Notwithstanding its many beneficial uses, geoblocking has been perceived as a major barrier to access to content on the internet; yet, counter-intuitively, geoblocking can facilitate greater access to content in some circumstances. For instance, geoblocking enables the territorial functioning of IPR laws—not only laws that remain territorial (that is, national laws that individual countries adopt and implement within the territorial scope of their prescriptive jurisdiction), but also laws that vary from country to country notwithstanding a significant degree of international harmonisation. Because exceptions and limitations to copyright differ in the national laws of different countries,¹³ the act of posting a copyright-protected work on the internet that is considered fair use in the United States might infringe on copyright in other

⁶ e.g. Silke von Lewinski, *International Copyright Law and Policy* (Oxford: Oxford University Press, 2008), para.25.33.

⁷ While the architecture of the internet influences how the law will be shaped, the process is circular and interests of a sufficient strength to shape the law will result in new or adjusted architecture. Lawrence Lessig, *Code: Version 2.0* (New York: Basic Books, 2006), p.3. See also Winston Churchill, Speech at House of Commons (Meeting in the House of Lords), October 28, 1943, available at <http://www.winstonchurchill.org/learn/speeches/quotations/famous-quotations-and-stories> [Accessed October 22, 2014] (“We shape our buildings, and afterwards our buildings shape us.”).

⁸ e.g. Jack L. Goldsmith and Alan O. Sykes, “The Internet and the Dormant Commerce Clause” (2001) 110 Yale L.J. 785, 785.

⁹ Michael Geist, “Cyberlaw 2.0” (2003) 44 B.C. L. Rev. 323, 357. For an early prediction of “cyberlaw 2.0”, see Jack Goldsmith, “The Internet and the Abiding Significance of Territorial Sovereignty” (1998) 5 Ind. J. Global Legal Stud. 475, 483.

¹⁰ Benjamin Edelman, “Shortcomings and Challenges in the Restriction of Internet Retransmissions of Over-the-Air Television Content to Canadian Internet Users”, p.2, available at http://cyber.law.harvard.edu/archived_content/people/edelman/pubs/jump-091701.pdf [Accessed August 11, 2014] (“To the best of my knowledge, commercial Internet-based geographic analysis tools have been available since no later than 1999 ...”).

¹¹ On the use and operation of geolocation tools see, for example, Svantesson, *Private International Law and the Internet* (2012), pp.400–426; Marketa Trimble, “The Future of Cybertravel: Legal Implications of the Evasion of Geolocation” (2012) 22 Fordham Intell. Prop. Media & Ent. L.J. 567, 586–599.

¹² e.g. *Telemedicus*, Oberverwaltungsgericht Münster, 13 B 646/10, July 2, 2010; Julia Hörnle and Brigitte Zammit, *Cross-Border Online Gambling Law and Policy* (Cheltenham: Edward Elgar Publishing, 2010), pp.137–138.

¹³ The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) includes loosely formulated provisions on exceptions and limitations. By contrast, the Marrakesh Treaty aims to harmonise more deeply some exceptions and limitations for the benefit of visually impaired persons. Marketa Trimble, “The Marrakesh Puzzle” (2014) 45 Int’l Rev. Intell. Prop. & Competition L. 768.

countries. Without the ability to block access to the work from any place outside the United States, the work may not be posted on the internet at all. Because the use of geoblocking enables internet actors to post the content and limit access to the content to users connecting from the United States, the same geoblocking, which is a major enemy of access to content on the internet, can, at least in some circumstances, be a useful ally in achieving greater access to certain content on the internet.

Territorial limitations and spillover

Territorial limitations on IPRs in the physical world are not perfect; physical borders are permeable, and even when right owners impose territorial limits in their licences, the objects of IPR protection can leak onto the markets of countries beyond those limits. Consider a completely offline scenario in which an author grants a licence to a book publisher to publish the author's book (the right to reproduce and distribute the work), but the author limits the licence to the United States because the author intends to license the work to other publishers for publication and distribution in other countries. It would be naïve to expect that no copies of the book published by the publisher and intended for the US market will ever cross US borders. Even if the publisher distributes the book only within the United States, the reality is that some spillover will occur because some copies of the book will "leak" outside the United States.

To the extent that leakage into an unlicensed market is *de minimis*, countries tolerate spillover when the leakage is only a trivial violation of the law.¹⁴ Legal spillover occurs through international travel and personal mail; travellers may bring a limited number of copies of a book with them to other countries for non-commercial purposes, and some copies may be mailed to other countries in small numbers, also for non-commercial purposes.¹⁵ Another type of spillover that is tolerated is the extraterritorial reach of over-the-air broadcasting. Recognising that an over-the-air signal cannot be perfectly confined to the territory of one country, IPR owners must accept the fact that a signal might be carried across a border, and consequently that their works will be accessible to a small number of unintended recipients in border regions.¹⁶

The internet, fortified with geoblocking, seemed to provide an ideal border-enabled space that would cure the permeability of the physical borders and eliminate any spillover.¹⁷ Geoblocking promised to limit access to content on a territorial basis with no leakage whatsoever. It also promised to offer access limitations with unprecedented granularity, allowing access denial or permission based on a location not only within a certain jurisdiction but even within a much smaller territory. Of course in the physical world, IPR owners can rely on contracts to enforce license limitations that are territorially smaller than a country.

¹⁴ *Ringgold v Black Entertainment Television Inc* 126 F.3d 70, 74 (2nd Cir. 1997).

¹⁵ TRIPS Agreement art.60. The *de minimis* importation exception applies not only to copyright but also to other types of IPRs. See also 17 U.S.C. § 107 (2012) (US) (particularly § 107(1) and (4)); Urheberrechtsgesetz (Germany) § 57. Transportation exceptions to patent rights are limited by time; the uses under the exceptions must be temporary. See Paris Convention for the Protection of Industrial Property 1883 (Stockholm Act 1967) art.5ter.

Leakage through commercial postal mail, which is typical in cases of products purchased online and shipped from foreign countries, is not the kind of spillover that is viewed as legal. However, the enforcement of IPRs for small shipments is challenging because customs offices deal with large numbers of small consignments and have limited resources. For an example of acceptable spillover, see "BBC iPlayer Help", available at https://iplayerhelp.external.bbc.co.uk/tv/watch_outside_uk [Accessed October 22, 2014]. According to the webpage, you may *not* download programs from the website onto your BBC iPlayer while you are outside the UK, but "[i]f you download a programme to your laptop or hard drive, or to your phone or tablet via the BBC iPlayer App [while in the United Kingdom], you can watch it anywhere in the world". BBC treats the latter conduct as permissible spillover.

¹⁶ Cf. *Sender Felsberg*, Bundesgerichtshof, I ZR 175/00, November 7, 2002; *Lagardère Active Broadcast SA v SPRE* (C-192/04) [2005] E.C.R. I-7199 (recognising that an extraterritorial broadcast may "require payment of equitable remuneration for the broadcast of phonograms within [the extraterritorial broadcast] territory" and the remuneration must reflect the "economic value of such use", which in this case was influenced by the fact that "almost the entire audience is in [the other, intended territory] ... , the broadcast ... can only be received by the public in a small [extraterritorial] area ... , and ... the broadcast is in the [intended territory's] language"). A territorial limitation can be imposed on satellite broadcasting by implementing a system of decoding devices that decrypt satellite transmissions and by selling the devices only within a certain territory. In the EU context, see *Football Association Premier League Ltd v QC Leisure* (C-403/08 and C-429/08) [2011] E.C.R. I-9083.

¹⁷ The internet also differs from the physical world in the volume and speed with which it can move data from one place to another, including across national borders.

However, in the physical world, only countries' borders provide physical points for effective enforcement of territorial limitations.

Geoblocking was not ignored by the technically savvy members of the internet community, who are extremely sensitive to attempts to constrain what they consider to be inherent internet freedoms, such as the freedom to access all content on the internet, regardless of where the content originates, as well as the freedom to enjoy the internet without surveillance. In order to support users' desire for privacy and their wish for access to content worldwide, the community created new tools that enabled internet users to hide their identities and physical locations while accessing the internet. These tools therefore allow users to evade geoblocking.¹⁸

If users evade geoblocking, they can access content on the internet as if they are located inside any territory that the evasion tool offers as a territory of location.¹⁹ For example, My Expat Network offers four countries to which users can "cybertravel"²⁰—meaning four countries whose IP addresses users can utilise as their point of connection to the internet. Once a user signs into My Expat Network, his internet connection is rerouted through an IP address inside the country he selects, and he appears to the internet world as though he is located in that country notwithstanding the fact that he remains physically in his original location. For example, a user located in the United States may sign in, ask to be rerouted through an IP address in the United Kingdom, and thereafter appear to be located in the United Kingdom. In doing so, he gains access to content that is normally available only to users who connect to the internet from inside the United Kingdom.

The tools that help users evade geolocation range from difficult-to-use tools (which require a degree of technical knowledge) to simple-to-use tools (which can be employed by any user with a basic understanding of the operation of the internet). For example, TOR (The Onion Router) requires the installation of the TOR program on a user's computer. For an effective masking of the user's location, the tool might also necessitate the installation of additional programs. My Expat Network requires only that a user sign into the My Expat Network website. Some tools have been created for general purposes, while others pursue a specific goal. For example, TOR's purpose is to assist anyone who wishes to operate on the internet free of surveillance, while My Expat Network declares on its website that it provides "access [to] TV and IP restricted content from any of [the supported] countries". Virtual private networks (VPN) were originally created for a variety of other purposes, but today they can be used to evade geoblocking as well.²¹

The emergence of geoblocking evasion tools has prompted the development of programs to detect the use of evasion tools and block access that is attempted through the use of these tools. Internet content providers have blocked IP addresses known to be used by evasion tools and have employed deep packet inspection²² to identify traffic routed through some of the tools. Of course the identification and blocking efforts do not remain unanswered by the creators of the evasion tools, who continue to develop additional tools to subvert geoblocking. For example, so-called "pluggable transports" are assisting users in obfuscating internet traffic that runs through evasion tools. They thereby help users to hide their use of the tools.

¹⁸ These tools are different from remote access tools, such as the Telnet and Secure Shell (SSH) protocols, which pre-dated geoblocking evasion tools and which users typically utilise to access their *own* computers from remote locations. Trimble, "The Future of Cybertravel" (2012) 22 Fordham Intell. Prop. Media & Ent. L.J. 567, 599–605.

¹⁹ On evasion of geolocation tools, see James A. Muir and Paul C. Van Oorschot, "Internet Geolocation: Evasion and Counterevasion", (2009) 42 *ACM Computing Surveys*.

²⁰ For the use of the term in this context, see Trimble, "The Future of Cybertravel" (2012) 22 Fordham Intell. Prop. Media & Ent. L.J. 567, 569.

²¹ For example, ExpressVPN offers connections through IP addresses in 46 countries.

²² Deep packet inspection is a technology that examines every packet—every protocol data unit on the internet—to detect the information that the packet is carrying. Milton Mueller, "DPI Technology from the Standpoint of Internet Governance Studies: An Introduction", p.2, available at http://dpi.ischool.syr.edu/Technology_files/WhatIsDPI-2.pdf [Accessed October 22, 2014].

The referendum

Whether access to IPR-protected content through evasion of geoblocking will be viewed as an IPR infringing act, or as a permissible de minimis spillover comparable to de minimis importation, will depend largely on users' actions. The more commonplace that geoblocking evasion becomes, the more likely are the acts to be deemed as impermissibly encroaching upon IPR owners' rights and thus in violation of IPRs.²³ Of course, internet users' evasion of geoblocking may signal a number of various trends. Without knowing individual users' motivations, it is impossible to isolate the presence of any one trend in user behaviour. Users might turn to geoblocking evasion tools solely because of an increased desire for privacy on the internet; recent revelations about large-scale surveillance on the internet may fuel this desire. In a less appealing scenario, user interest in evasion tools might indicate a greater awareness among *mala fide* users of the features of the internet that make it difficult for law enforcement to identify criminal elements on the internet. But an increased use of evasion tools will very likely evidence user desire to access content to which user access has been limited, often because of IPR-related restrictions.

There are several signals indicating that users wish to and will attempt to access content that is available solely in some territories. First, providers that advertise geoblocking evasion tools often prominently state that their tools enable access to IPR-protected material (notwithstanding the questionable legality of such use of the tools, at least in some scenarios).²⁴ The marketing strategy therefore suggests that the advertisers are aware that their frequent customers include users who wish to evade geoblocking to gain access to such material. Secondly, news coverage on the internet has provided anecdotal evidence of the use of the tools in accessing IPR-protected content, including time-sensitive content, such as the broadcasts of the Olympic Games²⁵ and the World Cup.²⁶

The proliferation of services that secure access to television content that is available only in certain markets evidences users' desire for such access.²⁷ These "space-shifting" services²⁸ are of three types. The first type captures over-the-air signals and retransmits the signals over the internet for the benefit of viewers, regardless of the location from which the viewers have connected to the internet (whether that location was intended by an over-the-air broadcaster to receive the signal or not). TVCatchup in the United Kingdom and Shift.TV in Germany were examples of this type of service. Both services were found to have infringed copyright.²⁹

The second and third types of services try to avoid liability for any acts that might be found infringing. They rely on making their users responsible for any volitional conduct associated with potential IPR infringement. The second type of service makes devices available for purchase or rental by users. The devices are then located in the service provider's facility, where the devices capture over-the-air television signals for the users based on their instructions. Rokuga Net, Rokuraku and ManekiTV were such services

²³ TRIPS Agreement arts 13, 17 and 30.

²⁴ Trimble, "The Future of Cybertravel" (2012) 22 Fordham Intell. Prop. Media & Ent. L.J. 567, 606–636.

²⁵ e.g. Liana B. Baker and Yinka Adegoke, "Olympics Fans Find Ways to Circumvent NBC's Online Control", Reuters, July 31, 2012; Aaron Gell, "Reinventing the Web: A New App Lets You Watch Whatever TV Program You Want, Including the Olympics, Anywhere in the World", *Business Insider*, January 25, 2014.

²⁶ Cecilia Kang, "Here's How People Are Watching the World Cup—Without Cable", *Washington Post*, June 13, 2014.

²⁷ According to recent surveys, "22% of EU citizens watch or listen to home services when abroad and 34% of the migrant population surveyed ... claimed that they would be very likely willing to pay a monthly subscription of €10 or more for a cross-border audiovisual service". Gregor Langus, Damien Neven and Sophie Poukens, *Economic Analysis of the Territoriality of the Making Available Right in the EU* (Brussels: European Commission, 2014), p. 106.

²⁸ "Space-shifting" typically refers to an activity that makes content "portable" in the sense that it can be used on different media, e.g. *Recording Industry Association of America v Diamond Multimedia Systems Inc* 180 F.3d 1072, 1079 (9th Cir. 1999). The term does not necessarily imply uses in different jurisdictions.

²⁹ *Internet-Videorecorder II* ("Shift.TV"), Bundesgerichtshof, I ZR 152/11, April 11, 2013; *ITV Broadcasting Ltd v TVCatchup Ltd*, Order, October 7, 2013, available at <http://static.tvcatchup.com/DOCS/ITV;%20Ch%204,%20Ch%205%20v%20TV%20Catchup%20Sealed%20Order%20%207th%20October%202013%20LJ%20Floyd.pdf> [Accessed October 22, 2014]. The findings of copyright infringement were not based on the fact that the services enabled access to content from territories outside the protecting countries. Issues related to extraterritorial access were not litigated in these cases.

in Japan, and Japanese courts found that each of these three services had infringed copyright.³⁰ Recently the US Supreme Court held that the activities of Aereo, a similar service offered in the United States, infringed copyright as well.³¹

The third type of service has not yet been subject to litigation—perhaps because this type of service appears the least likely to infringe copyright among all three types of services. This type of service provides devices that customers install in and run from their homes; the devices allow customers to view content on the internet that the devices capture.³² One company, Sling Media, enables users to “watch ... content ... anywhere in the world” with the help of its “Slingbox”, which links the television signal that a user receives at home with the internet.³³ Simple.TV devices from Really Simple Software³⁴ offer a similar functionality, thus providing access to content “wherever [users] are”.³⁵

Some providers of the three types of services have advertised that they enable access to domestic programming from abroad, while others have restricted their services, at least in their terms of service, to a certain territory or territories. Still others have remained vague (perhaps purposefully) about the territorial availability of their services. For example, Rokuga Net, Rokuraku and Maneki TV all apparently advertised their services to customers who lived outside Japan and who could—by using their services—enjoy Japanese television anywhere in the world.³⁶ TVCatchup and Aereo built portions of their legal defences on the fact that they limited their services to users who had access to the same content even without their services. TVCatchup’s terms of service restricted the use of its service to the United Kingdom,³⁷ and Aereo’s terms of service restricted the use of its service to users’ “home markets”.³⁸ Sling Media continues to promote the use of its products worldwide, including use by “frequent travelers or expats”, “college students or snowbirds”, and “military personnel”.³⁹ Really Simple Software recently changed its advertising: in May 2014, close to the time the US Supreme Court issued its decision in *American Broadcasting Companies v Aereo Inc.*,⁴⁰ Really Simple Software discontinued emphasising the availability of its content to users “on the road”—which it had prominently advertised earlier.⁴¹

Providers’ reliance on the effectiveness of boilerplate language in their terms of service in shifting responsibility for any potentially infringing conduct onto their users is an approach not unique to space-shifting services.⁴² Content providers also include boilerplate provisions in their terms of service concerning any attempted evasion of the geoblocking that they install to limit access to the content they provide. For example, German television station SAT.1’s terms of service prohibit “in particular chang[ing],

³⁰ Naoya Isoda, “Copyright Infringement Liability of Placeshifting Services in the United States and Japan” (2011) 7 Wash. J.L. Tech. & Arts 149, 180–191; *Rokuraku II*, Supreme Court, H21 (Ju) No.788, January 21, 2011, translation available at <http://www.softic.or.jp/en/cases/rokuraku.pdf> [Accessed October 22, 2014]; *Maneki TV*, Supreme Court, H21 (Ju) No.653, January 18, 2011, translation available at http://www.jpaa.or.jp/english/court_decisions/63-MANEKI%20TV%20Case%EF%BC%BBSupreme%20Court%EF%BC%BD.pdf [Accessed October 22, 2014]. Just as they were not litigated in the previous examples, issues of extraterritorial access were also not litigated in these cases.

³¹ *American Broadcasting Companies v Aereo Inc* 134 S. Ct. 2498 (2014). Issues of extraterritorial access were also not litigated in this case.

³² Because they are located in the user’s own home, the services are akin to the remote access tools.

³³ Sling, available at <http://www.sling.com/> [Accessed October 22, 2014].

³⁴ Really Simple Software Inc Privacy Policy, available at <https://us.simple.tv/Legal> [Accessed October 22, 2014].

³⁵ Simple.TV, available at <https://us.simple.tv/> [Accessed October 22, 2014].

³⁶ Isoda, “Copyright Infringement Liability” (2011) 7 Wash. J.L. Tech. & Arts 149, 180; “APAA Copyright Committee 2010, Special Topic Report, Japan Group”, available at http://www.apaaonline.org/pdf/APAA_58th_council_meeting_Korea/3-CopyrightCommitteeReports/SpecialTopicReportCopyright2010-Japan.pdf [Accessed October 22, 2014].

³⁷ *ITV Broadcasting Ltd v TVCatchup Ltd* (C-607/11) [2013] E.C.D.R. 9 at [10].

³⁸ *American Broadcasting Companies v Aereo Inc*, Defendant Aereo Inc’s Reply to the ABC Plaintiffs’ Response to Aereo’s Statement of Undisputed Material Facts in Support of Aereo’s Motion for Summary Judgment, SDNY, July 17, 2013, p.31 (“The Aereo Terms of Use ... limits playback only to those physically present in the home market.”).

³⁹ Discover Sling, available at <http://www.sling.com/en-US/DiscoverSling.aspx> [Accessed October 22, 2014]. A “snowbird” is a person who moves for the winter to a geographical location with mild winters (or into the opposite hemisphere) in order to avoid the harsh winters that exist in the geographical location where he spends his summers.

⁴⁰ 134 S. Ct. 2498 (2014).

⁴¹ On May 26, 2014, Simple.TV’s main page included “on the road” language; this date was about a month after the oral argument in *Aereo* and about a month before the US Supreme Court issued its judgment in that case. The language was not included on the main page as of August 12, 2014.

⁴² For example, Simple.TV, Service Agreement, available at <https://us.simple.tv/serviceagreement> [Accessed October 22, 2014] (“You agree to use the Service, including all features and functionalities associated therewith, in accordance with all applicable laws, rules and regulations, including public performance limitations or other restrictions on use of the service or content therein.”).

circumvent[ing], or otherwise violat[ing] the technical measures used by ProSiebenSat.1 Digital to territorially limit use”.⁴³

Regardless of the official approach that content, space-shifting or geoblocking evasion tool providers adopt to influence their users’ conduct, users continue to use geoblocking evasion tools to access restricted content. Users tend to take terms of service lightly; they typically accept the terms without reading them or ignore them completely. For example, Aereo has been discussed by internet users as a service that they could utilise to connect to the programming offered outside their “home markets” through the use of geoblocking evasion tools. The accessibility of such content (albeit through the use of evasion tools) from outside the users’ “home markets” could have been one appeal for users of the Aereo service.⁴⁴ Additionally, content providers (other than IPR owners) might use geoblocking imperfectly—either intentionally or unintentionally. Content providers (other than IPR holders) and space-shifting providers alike might also have little or no incentive, at least at present, to enforce their terms of service against their own users.

Users’ desire for inaccessible content will not evaporate simply because courts have found that some retransmission services infringe copyright; users will continue to seek methods to access territorially limited content.⁴⁵ Some of the services that have been found infringing have pursued or will pursue avenues to continue their operations legally by seeking necessary licenses. If content remains territorially restricted, users will probably use geoblocking evasion tools to accomplish their objectives. If users’ evasion activities become widespread, it is possible that geoblocking evasion will be the focus of another major internet copyright battle.⁴⁶ As geoblocking evasion increases, it is much less likely to be tolerated as an activity akin to de minimis importation of physical copies across international borders. A confrontation among copyright owners, their licensees and geoblocking evasion tool providers will then become very likely.

Mass use of evasion tools by users would prove that users wish to access content available outside the territory from which they connect to the internet. It would further prove that the territoriality of IPRs deserves a thorough review. Internet users enjoyed the internet in its early days when it was borderless, and they could access content that was available everywhere on the network without territorial restrictions. However, in the borderless days of the internet, users were merely passive beneficiaries of the status quo. Today, users must assert their desire for a borderless internet affirmatively by using geoblocking evasion tools, and this user conduct should be understood as users casting their votes in favour of a revision of IPR territoriality—or at least a revision of some of the implications of IPR territoriality.

The implications of referendum results for IPR territoriality

Internet users have various reasons for which they want to access content that is not available from the territory from which they connect to the internet. Immigrants may miss programming from their country of origin or want their children to have access to the programming; the wish to access the programming may be motivated by a desire or need to access programming in a native language and/or with local content.⁴⁷ A desire to enjoy content in a different language or a different version of the content is certainly not limited to immigrants; persons travelling or temporarily stationed abroad will share the desire, and other users may also prefer such content. Some users will not want to wait for the official release of content in their own territory once that content has been released in another territory, and some users will want to access content in other countries even if the content is available in their own country if access to the content requires a payment in their own country but is available for free elsewhere.

⁴³ SAT.1, *Nutzungsbedingungen für die Nutzung des Videoportals von Sat.1*, §4.1(g), available at <http://www.sat1.de/service/nutzungsbedingungen/nutzungsbedingungen-fuer-die-nutzung-des-videoportals-von-sat-1> [Accessed October 22, 2014].

⁴⁴ For a critical view of the otherwise limited utility of the service, see Sascha Segan, “5 Reasons Aereo Isn’t a Cord Cutter’s Dream”, *PC Magazine*, March 14, 2012.

⁴⁵ Emily Steel, “After Supreme Court Ruling, Aereo’s Rivals in TV Streaming Seize Opening”, *New York Times*, June 29, 2014.

⁴⁶ e.g. “Submission in Response to the Australian Government’s Online Copyright Infringement Discussion Paper”, *BBC*, September 2014, p.3.

⁴⁷ e.g. *Football Association Premier League* [2011] E.C.R. I-9083 at [42] and [60].

Various considerations prompt internet actors to place territorial restrictions on access to content on the internet: governmental censorship,⁴⁸ safety standards, labelling requirements and security requirements are among these considerations. IPR owners and licensees partition markets to maximise their returns on their IPR-protected works. They may, for example, make content accessible only to particular market(s) for which the content is tailored. Such fine-tuned content not only uses the local language but also reflects the cultural, social and legal expectations of the target market.⁴⁹ IPR owners also partition markets to enjoy the maximum benefits of varying release schedules in different markets⁵⁰ and to negotiate the best possible licensing conditions for maximising their revenues.⁵¹

The territoriality principle that governs IPRs does not mandate the partitioning of markets for IPR-protected works. The fact that IPRs are creatures of national laws and extend only to the limits of an individual country's prescriptive jurisdiction does not automatically mean that markets with IPR-protected goods must be partitioned. Theoretically, a copyright owner can grant a single licence to his work for all countries whose respective national copyright laws protect his work and consider him to be the copyright owner and/or a person or entity who may grant a licence.⁵² However, there will certainly be situations in which the adherence to the territoriality principle, and the fact that national IPR laws differ, will cause assignments and licensing to occur in a territorially limited fashion. For example, the same person or entity might not be deemed the copyright owner of a work in all countries—or even in all countries that are parties to the major IPR treaties that have harmonised many aspects of national IPR laws. The same person might therefore not be able to assign and license the work for all countries.

What should the next step be if the “territoriality referendum” shows that users want to access IPR-protected works available in other territories to a degree that exceeds the equivalent of acceptable de minimis importation or other tolerable spillover? To the extent that access limitations are imposed solely for profit maximisation, evidence of user interest in cross-border access to works might cause the private sector to reassess its approach to the territorial partitioning of markets. For example, content providers might seek broader territorial licences to make programming in a particular language accessible to all persons who speak the language—both local residents and expatriates. In the alternative content providers might begin providing their content globally on a pay-per-view basis.⁵³

To the extent that territorial access limitations are the result of legal barriers, such as the diverse rules for initial and subsequent IPR ownership, countries may consider ways of removing the barriers or mitigating their impact. International legal harmonisation has helped remove some barriers to cross-border access. However, in an environment in which harmonisation has not led to uniform laws (either globally or for all IPRs) and in an environment in which further deeper harmonisation of national IPR laws has been progressing slowly, lowering the transaction costs associated with the provision of access to content in multiple territories is a logical step that countries can take towards improving cross-border access to content.

⁴⁸ Peter K. Yu, “Towards the Seamless Global Distribution of Cloud Content” in Anne S.Y. Cheung and Rolf H. Weber (eds), *Privacy and Legal Issues in Cloud Computing* (Cheltenham: Edward Elgar Publishing, 2015).

⁴⁹ On localised versions of music and video on-demand services, see Langus, Neven and Poukens, *Economic Analysis of the Territoriality of the Making Available Right in the EU* (2014), p. 104; Peter K. Yu, “Region Codes and the Territorial Mess” (2012) 30 *Cardozo Arts & Ent. L.J.* 187, 209–216 (discussing “distribution and licensing agreements”).

⁵⁰ For example, on the “[h]eterogeneity in film release trends across EU Member States”, see Langus, Neven and Poukens, *Economic Analysis of the Territoriality of the Making Available Right in the EU* (2014), pp. 56–57; Yu, “Region Codes and the Territorial Mess” (2012) 30 *Cardozo Arts & Ent. L.J.* 187, 200–206 (discussing “sequential release”); Yu, “Towards the Seamless Global Distribution” in Cheung and Weber (eds), *Privacy and Legal Issues in Cloud Computing* (2015).

⁵¹ Yu, “Region Codes and the Territorial Mess” (2012) 30 *Cardozo Arts & Ent. L.J.* 187, 206–209 (discussing “price discrimination”); Yu, “Towards the Seamless Global Distribution” in Cheung and Weber (eds), *Privacy and Legal Issues in Cloud Computing* (2015).

⁵² For example, in some countries an employer is not the owner or an owner of copyright to an employee's work, but in some of these countries (and in some instances) the employer might be the exclusive licensee, at least of the economic rights associated with the copyright. For example, Copyright Law of the People's Republic of China art. 16; French Intellectual Property Code art. L. 113-9.

⁵³ For the general “celestial jukebox” idea, see Paul Goldstein, *Copyright's Highway: From Gutenberg to the Celestial Jukebox* (New York: Hill and Wang, 1994), pp. 28–29.

Some countries have already joined forces to lower transaction costs and facilitate cross-border access to copyright-protected works, at least in some circumstances. The 2012 European Union (EU) Orphan Works Directive requires Member States to provide for the mutual recognition of the orphan work status of a copyright-protected work. This status recognition permits access to the work in all EU countries (albeit in limited circumstances).⁵⁴ The 2013 Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired, or Otherwise Print Disabled, once implemented by its contracting parties, will enable cross-border access to works in formats that are accessible to persons who are visually impaired.⁵⁵ Finally, the 2014 EU Collective Rights Management Directive outlines and harmonises across the European Union the conditions for “multi-territorial licences for online rights in musical works”.⁵⁶ The conditions should “facilitat[e] the voluntary aggregation of music repertoire and rights”⁵⁷ and thus simplify multi-territorial licensing of musical works.⁵⁸

Conclusions

When internet users evade geoblocking, they are not actually voting in a referendum. No one has informed users that they have an opportunity to cast their votes. No one has explained what the referendum questions are, or what the answers to the questions might be. And no one knows what the force of the referendum result will be—whether someone (and, if so, who) will respect the results or reflect on them in any sensible manner. Most importantly, it is unclear who might report the results of the vote. Those who are in the best position to count the votes—geoblocking evasion tool providers—are likely to have little or no incentive to report the magnitude of the evasion of geoblocking.

If the geoblocking evasion data do become available and show that geoblocking evasion has become widespread among internet users, countries might want to react to the phenomenon if it implies that access to IPR-protected works is exceeding the level of acceptable *de minimis* importation. Countries cannot adopt laws to permit such increased spillover without making the legislation comply with the set international framework for exceptions and limitations to IPRs, such as the three-step-test for copyright.⁵⁹ Countries could attempt to increase IPR enforcement and act against geoblocking evasion providers. They could also decide to tolerate the spillover and legislate statutory licences or other remuneration schemes to allow the spillover to function within the three-step-test framework. In addition, countries could decide to facilitate greater cross-border access to IPR-protected works by further harmonising their laws internationally, thereby removing barriers to cross-border transactions involving IPRs and lowering transaction costs where barriers persist. The private sector has already responded to users’ desire for greater cross-border access by offering services that enable cross-border access to content. It is likely to continue to develop business models that monetise that desire.

The territoriality principle that governs IPRs is not responsible for all of the territorial limitations that are placed on access to IPR-protected works. Although the reasons for limiting territorial access to works sometimes arise because of differences among national laws that create the IPRs, at other times the reasons

⁵⁴ Directive 2012/28 of October 15, 2012 on certain permitted uses of orphan works [2012] OJ L299/5, art.4.

⁵⁵ Marrakesh Treaty arts 2(b), 5 and 6.

⁵⁶ Directive 2014/26 of February 26, 2014 on collective management of copyright and related rights and multi-territorial licensing of rights in musical works for online use in the internal market [2014] OJ L84/72, art.23. Recital 40 states that the provisions do not concern “online services solely providing access to musical works in sheet music form”.

⁵⁷ Directive 2014/26 recital 40.

⁵⁸ To the extent that current law provides sufficient leeway for flexible interpretations, courts may contribute to the removal or mitigation of barriers by interpreting the law in a manner that facilitates the removal or mitigation of the barriers. In *Football Association Premier League*, the European Court of Justice decided in favour of extraterritorial access. However, that case concerned satellite transmission decoding devices, and it would not be a good example in the context of geoblocking evasion tools, which in this context would likely be held unlawful under the EU Conditional Access Directive. *Football Association Premier* [2011] E.C.R. I-9083 at [64]; Directive 98/84 of November 20, 1998 on the legal protection of services based on, or consisting of, conditional access [1998] OJ L320/54. See also Trimble, “The Future of Cybertravel” (2012) 22 *Fordham Intell. Prop. Media & Ent. L.J.* 567, 629–630.

⁵⁹ TRIPS Agreement art.13; “United States—Section 110(5) of the U.S. Copyright Act”, Report of the Panel, 2000, WT/DS160/R, para.6.80.

are not linked to these differences and reflect instead the economic interests and other concerns of IPR owners, including concerns that stem from non-IPR-related legal obligations. Market partitioning that leads to territorial access limitations is therefore likely to continue, at least to a certain extent.

Law and the Geography of Cyberspace

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☞ China; Information technology; Intellectual property; Internet; Online services; United States

The internet was supposed to end geography. Anyone, anywhere could now run a newspaper, a search engine, a game service, and the world could access it. After millennia of geography dictating destiny, the world was now flat, and opportunity evenly distributed everywhere. Yet, a quick glance at the world's leading internet companies, from Facebook to Zillow, leads one remarkably often to the United States. At the time of this writing, Facebook's market capitalisation is \$209 billion, while Zillow's is \$4 billion.¹ In this article, I will argue that law played a crucial role in creating the geography of cyberspace—specifically, that flexible intellectual property rules which permitted internet entrepreneurship in the United States proved a key ingredient in American commercial success on the internet.

The World Intellectual Property Organization (WIPO) has long championed intellectual property rights as a key to an innovation economy. Before this *Journal's* audience of international intellectual property lawyers and policy-makers, I will argue that intellectual property rights can prove so strong and inflexible that they can stymie, not further, WIPO's innovation and development agendas. Indeed, there is a fundamental tension between intellectual property rights and information technology innovation because advances in information technology permit ever more efficient transfer of information, thereby threatening intellectual property holders' rights.

Despite its general approach to international intellectual property law-making, where it single-mindedly champions the role of intellectual property in advancing innovation, the United States recognises this tension in its own domestic law and jurisprudence. Justice David Souter stated this explicitly in his opinion for the Supreme Court in *MGM v Grokster*:

“The more artistic protection is favored, the more technological innovation may be discouraged; the administration of copyright law is an exercise in managing the tradeoff.”²

In this article, I will argue that this insight helps explain the geography of cyberspace today.

Why aren't the leading internet enterprises uniformly distributed across the world? In this article, I consider some popular explanations for American dominance and find them incomplete. I propose a complementary explanation—Silicon Valley enterprises, as other internet enterprises in the United States, grew in the shelter of American law, while similar foreign enterprises faced laws on the books that seemed far more daunting. US law recognised the tension between intellectual property and information technology and sought to ensure a balance between the two, neither eviscerating intellectual property nor information technology.

In an earlier article, “How Law Made Silicon Valley”, I contrasted the laws in the United States with those in the European Union, Japan and South Korea with respect to the potential liabilities faced by

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¹ Yahoo! Finance, “FB: Summary for Facebook, Inc.”, available at <http://finance.yahoo.com/q?s=FB> [Accessed October 22, 2014]; Yahoo! Finance, “Z: Summary for Zillow, Inc.”, available at <http://finance.yahoo.com/q?s=Z> [Accessed October 22, 2014].

² *Metro-Goldwyn-Mayer Studios Inc v Grokster Ltd* 545 U.S. 913, 928 (2005).

internet companies.³ My comparative study showed that, despite popular understanding of the United States as an intellectual property-maximalist state, US intellectual property law proved a good deal more flexible than that in other technologically advanced states.

This article builds on that earlier paper. Here, after sketching a map of cyberspace in the first section below, I consider traditional explanations for the rise of Silicon Valley and American internet companies in the following section. I then introduce another key explanatory factor, law, and demonstrate its importance to the rise of both US and Chinese internet companies.

Mapping cyberspace

When we map cyberspace by internet enterprise, we can see the prominence—even the dominance—of the United States. Consider the list of the most popular websites in the world (as ranked by Alexa reports on global traffic). Google, Facebook, YouTube and Yahoo! sit at the very top, with Baidu, Taobao and Tencent QQ occupying the 5th, 9th and 10th positions. Wikipedia (#6), Amazon (#7) and Twitter (#8) round out the top 10 slots.⁴ In all, 7 out of 10 most highly trafficked websites in the world come from companies based in the United States. When it comes to the services that individuals use on a day to day basis across the world, those services will be based, more likely than not, in the United States (even if they are run by immigrants from across the world).

What if we map cyberspace instead through its users? Mapping on the basis of the number of people with internet access, the same list appears—with China (604 million users), the United States (254 million) and India (244 million) at the top.⁵ But if we look at the percentage of people with internet access—the map tilts heavily westward, with high internet penetration rates in the United States, Canada and Europe and low penetration rates in Africa and Asia, with the exception of South Korea and Japan and a few smaller countries. While 84 of every 100 people in the United States have access to the internet, only 6 of every 100 people in war-torn Afghanistan do.⁶ Most people in the global North have internet access, while most in the global South do not.

Behind the United States on the internet corporate league table, we find two other countries, China and India. The recent blockbuster initial public offering of Alibaba reminds us that China has notable internet enterprises, even if we in the West sometimes know little of them. Alibaba's market capitalisation of \$294 billion exceeds even that of its formidable American counterpart eBay, which has a market capitalisation of \$67 billion.⁷

India appears only if we include the cross-border outsourcing industry that developed on the back of telecommunications technologies that allow companies to supply services across the world. Companies like Infosys, HCL Technologies and Wipro now provide back office and information technology services to Fortune 500 enterprises, as well as governments worldwide. While these three companies have market capitalisations only in the tens of billions (Infosys at \$39 billion, HCL Technologies at \$18 billion and Wipro at \$31 billion), not the hundreds of billions, those multibillion valuations are extraordinary for

³ Anupam Chander, "How Law Made Silicon Valley" (2014) 63 Emory L.J. 639.

⁴ Alexa, "The 500 Top Sites on the Web", available at <http://www.alexa.com/topsites> [Accessed October 22, 2014].

⁵ Wikipedia, "List of Countries by Number of Internet Users", available at http://en.wikipedia.org/wiki/List_of_countries_by_number_of_Internet_users [Accessed October 22, 2014].

⁶ World Bank, "Internet Users (per 100 People)", available at <http://data.worldbank.org/indicator/IT.NET.USER.P2/countries?display=default> [Accessed October 22, 2014].

⁷ Yahoo! Finance, "BABA: Summary for Alibaba Group Holding Limited A", available at <http://finance.yahoo.com/q?s=BABA> [Accessed October 22, 2014]; Yahoo! Finance, "EBAY: Summary for eBay Inc.", available at <http://finance.yahoo.com/q?s=EBAY> [Accessed October 22, 2014].

Indian corporations that are not resource rich.⁸ The Electronic Silk Roads empowering global exchange and commerce today typically begin in one of these three nations.⁹

The map of internet companies thus coincides with the map of internet users, but only in patches. The United States, China and India appear as major players on both maps. Other countries, even large ones such as Indonesia are largely missing in action when it comes to global internet enterprise.

Scholars have observed the “spikiness” of innovation—the fact that innovation is not uniformly distributed among humankind.¹⁰ Annalisa Primi of the Organisation of Economic Cooperation and Development points out that “patenting via [WIPO’s] Patent Cooperation Treaty (PCT) is concentrated in a few regions across the world”.¹¹ “Nine of [the] top 20 [patenting] regions are from the USA”, she observes, “four are from Japan, three from Germany, and one each from France and the Netherlands”. She concludes:

“The geography of innovation is not flat. Certain places, weather regions, cities, or local clusters tend to agglomerate specific competences, including scientific and technical knowledge as well as entrepreneurial capabilities and finance; these stand out as the world’s top innovation hotspots.”¹²

Where innovation happens is not only a matter of national or regional pride, but also of economics. As we move deeper into the Information Age, we need to be mindful of who is benefiting from the latest technologies. Who are the businesspeople that are creating today’s billion dollar internet enterprises? Will the next Mark Zuckerberg or Jack Ma hail from the developed or developing world, from east or west, from north or south? Whose corporations are benefiting from the latest technological advances? The answers will help determine where wealth creation occurs in the years to come. This, in turn, affects government finances through income taxes from the corporation, its shareholders and employees (as well as the local companies supplying the internet enterprises), though some states have sought to attract innovative companies by promising tax holidays for the corporation.

The geography of cyberspace will also help determine who has access to the internet, who speaks on the internet, which governments raise tax revenues in the global information economy and which individuals profit from it. Thus it is important to map cyberspace and then determine why the map looks like it does.

Indian companies, for their part, concentrate on providing services to corporations and the public sector, increasing efficiencies. Chinese companies have largely confined themselves to the market in China. American companies, by contrast, set out to conquer the world, and have proved successful, in large measure. Apple, Google and Microsoft now run the operating system for the planet.

Traditional explanations for cyber-geography

What explains the geography of cyberspace? Why are ordinary people and business people across the world communing with American internet enterprises from the moment they wake to the moment they sleep? We consider a number of possible explanations below.

America invented the internet, and thus it is no surprise that its companies now dominate global cyberspace. Or so goes one popular explanation. US researchers did, indeed, invent many of the crucial protocols that connected computers in a system that came to be known as the internet, but they were not

⁸ Yahoo! Finance, “INFY: Summary for Infosys Limited American Depository”, available at <http://finance.yahoo.com/q?s=INFY> [Accessed October 22, 2014]; Yahoo! Finance India, “HCLTECH.NS: Summary for HCLTECHNONPP070100DEPO”, available at <https://in.finance.yahoo.com/q?s=HCLTECH.NS> [Accessed October 22, 2014]; Yahoo! Finance, “WIT: Summary for Wipro Limited Common Stock”, available at <http://finance.yahoo.com/q?s=WIT> [Accessed October 22, 2014].

⁹ For an extended inquiry into the way that the internet is powering development across the world, see Anupam Chander, *The Electronic Silk Road: How the Web Binds the World Together in Commerce* (New Haven: Yale University Press, 2013).

¹⁰ Annalisa Primi, “The Evolving Geography of Innovation: A Territorial Perspective” in *The Global Innovation Index 2013: The Local Dynamics of Innovation* (Geneva: World Intellectual Property Organization, 2013), p.69.

¹¹ Primi, “The Evolving Geography of Innovation” in *The Global Innovation Index 2013* (2013), p.70.

¹² Primi, “The Evolving Geography of Innovation” in *The Global Innovation Index 2013* (2013), p.70.

alone. Janet Abbate describes the “cold war roots” of packet switching in the United States where engineers working for the US Department of Defense sought to create survivable communications, capable of withstanding a pre-emptive strike or battle conditions.¹³ Packet switching arose independently in the United Kingdom, though driven by a desire for more efficient use of computer resources.¹⁴ The rollout of the US Department of Defense-sponsored ARPANET packet-switched network ultimately borrowed from both the US and UK theoretical design work.¹⁵

Even though the internet existed in some form over the 1970s and 1980s, it languished in relatively obscure academic, military and computer sectors until the mid-1990s. It was not until the mid-1990s that it gained popular appeal. Here are the estimates for the number of people using the internet over its last four and a half decades:

2014	2,400,000,000
2010	2,000,000,000
2005	1,000,000,000
2000	360,000,000
1993	5,000,000
1983	1,000,000
October 1969	2 ¹⁶

The key to the internet’s rapid popular growth in the 1990s was the invention of the World Wide Web, which was largely a *European*, not an American, invention. While working in Geneva, Switzerland, the British engineer Tim Berners-Lee proposed the HyperText Markup Language and the Hypertext Transfer Protocol that formed the basis for the Web.¹⁷ Berners-Lee then convinced his employers at the European particle physics laboratory CERN to dedicate the invention to the public domain.¹⁸ Thus, even if its early origins were largely American, the internet became a household phenomenon because of innovation originating not in the United States, but in Europe.

A related argument goes as follows: the United States was highly technologically advanced, and thus we should expect the United States to excel in all technological arenas, including the internet. In the 1990s, however, the most advanced telecommunications infrastructure in the world could be found in Asia. Japan and South Korea deployed broadband internet early, and even offered mobile internet in the 1990s. Japan’s largest mobile carrier NTT Docomo introduced its mobile internet service, i-Mode, in 1999, almost a decade before the iPhone (introduced in 2007) and Google Android phones (introduced in 2008).¹⁹ “Long before Apple Pay, Japan had ‘Mobile Wallet,’” the *Wall Street Journal* reminds us.²⁰ NTT Docomo introduced “Osaifu-Keitai”, or “mobile wallet”, literally a decade before Apple—in 2004.

¹³ Janet Abbate, *Inventing the Internet* (Cambridge: MIT Press, 1999), p.8.

¹⁴ Abbate, *Inventing the Internet* (1999), p.8.

¹⁵ Abbate, *Inventing the Internet* (1999), p.38.

¹⁶ Edward Gresser, “Progressive Economy”, available at <http://progressive-economy.org/2014/10/15/the-internet-will-have-3-billion-users-by-new-years-day/> [Accessed October 22, 2014].

¹⁷ Wikipedia, “Hypertext Transfer Protocol”, available at http://en.wikipedia.org/wiki/Hypertext_Transfer_Protocol [Accessed October 22, 2014] (“Tim Berners-Lee and his team are credited with inventing the original HTTP along with HTML and the associated technology for a web server and a text-based web browser.”).

¹⁸ Tim Berners-Lee, *Weaving the Web: The Original Design and Ultimate Destiny of the World Wide Web by Its Inventor* (Glasgow: Harper Collins Publishers 1999), p.74 (reporting declaration of CERN allowing anybody to use the Web protocol and code free of charge).

¹⁹ “DoCoMo’s i-mode: Still Waiting for the Revolution” *USA Today*, February 22, 2002, available at <http://usatoday30.usatoday.com/tech/news/2002/02/22/imode.htm> [Accessed October 22, 2014]; Wikipedia, “Android (Operating System)”, available at [http://en.wikipedia.org/wiki/Android_\(operating_system\)#History](http://en.wikipedia.org/wiki/Android_(operating_system)#History) [Accessed October 22, 2014].

²⁰ Mayumi Negeshi, “Long before Apple Pay, Japan Had ‘Mobile Wallet,’” available at <http://blogs.wsj.com/japanrealtime/2014/09/11/long-before-apple-pay-japan-had-mobile-wallet/> [Accessed October 22, 2014].

Perhaps the most popular explanation for American cyber-success is the coincidence of money and education found in Silicon Valley. When the venture capitalists of Sand Hill Road met the brilliant engineers from Stanford, magic happened. Certainly, without either money or highly educated engineers, the United States would not have become an internet powerhouse. But there are great engineering programmes in regions flush with capital across the world—from Hong Kong to London to Sao Paulo to Singapore to Shanghai, to name but a few. Neither talent nor capital is confined to the United States. This is by no means to deny the existence of a geography of innovation that depends on the symbiotic relationship between industry and higher education, including knowledge spillovers across the ecosystem. The question is why this geography did not lead to a dozen more Silicon Valleys across the globe.

Some will suggest a cultural, not a material, explanation. The United States embraces creativity and entrepreneurship. There is certainly much truth to this. But we must keep in mind that immigrants from foreign societies have played a major role in American innovation—from eBay founder Pierre Omidyar from France to Google pioneer Sergey Brin from Russia to Hotmail creator Sabeer Bhatia from India and to Yahoo! cofounder Jerry Yang from Taiwan.²¹ Furthermore, mimicry is hardly unknown in Silicon Valley. Facebook was hardly the world's first social network, though it has offered innovative features—as well as copycat ones—over the years. When Snapchat rebuffed Facebook's buyout offer, Facebook introduced a similar service.²² Uber spawned Lyft. Cloud storage companies are so ubiquitous—consider Apple iCloud, Box, Dropbox, Google Drive and Microsoft SkyDrive (now OneDrive)—that it is hard to know which is the copy and which is the original. “Good artists copy”, Steve Jobs famously said, “great artists steal”.²³

As we have seen, the conventional explanations of American internet success thus do not tell the entire story. In the next section, I add law as a crucial factor explaining today's cyber-geography.

Law and the construction of cyberspace

The United States

A less remarked upon foundation for the success of US internet companies was a hospitable law at home. Because many of the emerging internet enterprises depended on user-generated content, the risk of secondary liability for wrongs committed by users could have been devastating. But in the 1990s, the US Congress and courts reduced the risk that internet companies faced for the services they provided to all of us. In the United States, the Digital Millennium Copyright Act (DMCA) offered internet providers safe harbours from liability for copyright infringement by users. Courts interpreting common law doctrines also limited liability for trademark infringement by users. Finally, the Communications Decency Act's s.230 warded off claims for intermediary liability for defamation and a host of other civil claims.²⁴ The *New York Times* characterised the Clinton-Gore Administration's approach to the internet as “Let a thousand web sites bloom”.²⁵

The European Union, Japan and South Korea were, by contrast, far more ambivalent about the secondary liability of internet services, creating extensive risks for such enterprises. The upshot was vivid:

“Google and Yahoo were so worried that Japanese copyright law would make search engines illegal that they placed their search servers offshore. A Japanese computer science professor advised his

²¹ Immigrant Learning Center, “Immigrant Entrepreneur Hall of Fame: Information Technology”, available at <http://www.ilctr.org/promoting-immigrants/immigrant-entrepreneur-hof/information-technology/> [Accessed October 22, 2014].

²² Mario Aguilar, “Poke Facebook Just Cloned Snapchat”, available at <http://gizmodo.com/5970590/facebook-poke-will-snapchat-style-sexting-work-on-facebook> [Accessed October 22, 2014].

²³ Dan Farber “What Steve Jobs Really Meant When He Said ‘Good Artists Copy; Great Artists Steal’”, available at <http://www.cnet.com/news/what-steve-jobs-really-meant-when-he-said-good-artists-copy-great-artists-steal/> [Accessed October 22, 2014].

²⁴ Communications Decency Act 1996 s.230.

²⁵ John M. Broder, “Let It Be: Ira Magaziner Argues for Minimal Internet Regulation” *New York Times*, June 30, 1997, p.D1.

students to publish their software outside Japan. British Prime Minister David Cameron suggested that Google's search engine might have been illegal under English copyright law.²⁶

Two cases, on either side of the Atlantic, demonstrate the divergent approaches of the US and European courts to issues of online intermediary liability. Both involved claims by trademark holders against the US company eBay for allegedly counterfeit goods sold on that site. Before the European Court of Justice, L'Oréal sought to hold eBay liable.²⁷ eBay relied on art.14(1) of the European Union Electronic Commerce Directive to argue that it was "not liable for the information stored at the request of a recipient of the service". The court held that this immunity would not be available where the operator had undertaken "an active role of such a kind as to give it knowledge of, or control over, the data relating to those offers for sale".²⁸ The European Court of Justice returned the case to the national court to determine whether eBay

"was aware of facts or circumstances on the basis of which a diligent economic operator should have realised that the offers for sale in question were unlawful and, in the event of it being so aware, failed to act expeditiously".²⁹

On the heels of the decision, the law firm of Latham & Watkins advised its clients that sites like eBay will

"have to engage in a higher degree of self policing in the future, especially with respect to the offer for sale of well known or famous brands".³⁰

eBay fared much better in US courts. In *Tiffany (NJ) Inc v eBay Inc*, the US Court of Appeals for the Second Circuit sided with eBay against trademark holder Tiffany arising out of allegedly counterfeit Tiffany goods sold via the platform.³¹ The US court ruled in favour of eBay on the issue of contributory liability for trademark infringement.³² It remanded the case on the narrow issue of whether eBay had misled users in its advertising campaign invoking the Tiffany name.³³ On remand, the trial court ruled in favour of eBay, finding no misleading advertising using Tiffany's marks.³⁴

As the pair of eBay cases typified, the end result was that, for more or less the same behaviour, an internet company might find itself in legal trouble in Europe, but home free in the United States.³⁵ An entrepreneur founding a company that allows individuals across the world to buy and sell goods might well choose the United States as a more welcoming legal regime. Such a company based in Europe might find itself encumbered by obligations to determine whether the multitude of goods sold on its site were authentic. Such a burden might well prove too demanding for a fledgling corporation. Consider the case of eBay itself. Two years after its founding in 1995, eBay still had fewer than 50 employees.³⁶ A year later, in mid-1998, with 76 employees, it was hosting a half-a-million items for sale, with 70,000 items added per day.³⁷ At the time, it was valued at two billion dollars.³⁸ It is hard to imagine that such a small

²⁶ Chander, "How Law Made Silicon Valley" (2014) 63 Emory L.J. 639, fn.8.

²⁷ *L'Oréal SA v eBay Int'l AG* (C-324/09) [2011] E.C.R. I-06011 at [34].

²⁸ *L'Oréal* [2011] E.C.R. I-06011 at [116].

²⁹ *L'Oréal* [2011] E.C.R. I-06011 at [124].

³⁰ Latham & Watkins, "The Court of Justice of the European Union Tightens Liability of Online Marketplace Operators", p.4, available at <http://www.lw.com/thoughtLeadership/cjeu-tightens-online-marketplace-operators-liability> [Accessed October 22, 2014]. Consider the title of one case note: Joel Smith and Joanna Silver, "L'Oréal v eBay: A Warning to Online Marketplace Operators" (2011) 6 J. Intell. Prop. L. & Prac. 765.

³¹ *Tiffany (NJ) Inc v eBay Inc* 600 F.3d 93, 109 (2nd Cir. 2010).

³² *Tiffany* 600 F.3d 93, 109 (2nd Cir. 2010).

³³ *Tiffany* 600 F.3d 93, 114 (2nd Cir. 2010).

³⁴ *Tiffany (NJ) Inc v eBay, Inc* 2010 WL 3733894 (SDNY).

³⁵ "Federal Appellate Courts Poised to Deliver Key Cyberlaw Rulings in 2012" (2012) 17 Electronic Com. & L. Rep. 67 (characterising decision as "a favorable ruling for online intermediaries").

³⁶ Adam Cohen, *The Perfect Store: Inside eBay* (Boston: Little, Brown and Co, 2002), p.122.

³⁷ eBay Inc, *Prospectus*, September 24, 1998.

³⁸ Dawn Kawamoto and Corey Grice, "eBay Roars into Public Trading", available at http://news.cnet.com/eBay-roars-into-public-trading/2100-1001_3-215908.html [Accessed October 22, 2014].

group of employees could have vetted the literally tens of thousands of items coming in each day to ascertain whether they were authentic.

Similar concerns arose across a variety of legal claims. Amazon allowed any individual to review a product. Presumably in order to amass more reviews, Amazon even permitted individuals who had not purchased the product to review it. US law protected Amazon when an aggrieved author, Jerome Schneider, sued the company for what he believed to be defamatory reviews of his book.³⁹ Schneider alleged that Amazon failed to remove the statements, but a Washington state appeals court ruled that Amazon was protected against the claims by the Communications Decency Act's s.230, which removes liability for user-supplied content from online publishers. Section 230 thus made possible review systems that have proliferated on the internet, providing an invaluable resource for consumers everywhere. Indeed, s.230 has protected countless internet companies from lawsuits arising from the actions of their users.⁴⁰

Elsewhere, I have explained the threat that copyright infringement claims pose to communications technologies as follows:

"Any technology that allows individuals to share information can lend itself to copyright infringement. A company like Yahoo that allows individuals to post whatever they want online faces a high risk that its service will be used for extensive copyright infringement. The company might be liable for direct infringement every time it delivers a copy of the copyrighted work (direct infringement being a strict liability offense), for contributory infringement if it has knowledge and makes a material contribution to the infringement, and for vicarious infringement if it controls and earns a direct financial benefit from the infringement. Given that statutory damages for direct infringement alone range from \$200 to \$150,000 for each work, and that millions of works are copied online, the spectre of liability would be enough to stop most Internet companies dead in their tracks. This is not a hypothetical concern. Consider the graveyard of dot-com enterprises, felled not by flawed monetization plans, but by copyright law: MP3.com, ICraveTV.com, Aimster, Grokster, and, most famously, Napster."⁴¹

Even while some internet companies in the United States fell in the face of copyright liabilities, the United States created a set of copyright laws that Silicon Valley could live with. The DMCA created a notice and takedown regime that did not place the policing burden for discovering copyright infringement on the internet intermediary. The statute insulated internet intermediaries that cooperated with copyright holders upon receiving a notice of an infringement.⁴² This had a clear effect: relying on the DMCA, US courts, for example, sided with YouTube against Verizon's claims that YouTube abetted copyright infringement.⁴³

The US Congress and courts thus established an environment welcoming internet enterprises. Such enterprises could now provide powerful services to users, without fear of the fact that some users would inevitably commit legal wrongs via those services. Rather than the bootstrapped start-ups that created the web we know today, only the largest corporations would have had the resources to engage in the extensive reviews of the material posted by thousands (and even millions) of users. Most likely, however, those well-resourced corporations would have found it uneconomical to do so, realising that they would not be able to recoup the costs of the due diligence required for each user interaction.

But the hospitable law did more than help American enterprise. The law created what has become the engine for free speech across the world today. American companies now serve as free speech platforms for the world. Consider 2 of the 81 indicators used to calculate the Global Innovation Index by WIPO and

³⁹ *Schneider v Amazon.com Inc* 31 P.3d 37 (Wash Ct App 2001).

⁴⁰ Chander, "How Law Made Silicon Valley" (2014) 63 Emory L.J. 639, 653, fn.58 (collecting cases).

⁴¹ Chander, "How Law Made Silicon Valley" (2014) 63 Emory L.J. 639, 658.

⁴² Digital Millennium Copyright Act 1998 s.512.

⁴³ *Viacom Intern Inc v YouTube Inc* 940 F. Supp. 2d 110 (2013); *Viacom Intern Inc v YouTube Inc* 676 F.3d 19 (2nd Cir. 2012).

its partners: “Wikipedia monthly edits” and “Video uploads on YouTube”.⁴⁴ Contributions to US-based internet media-platforms are treated here as a signal of innovation worldwide.

Law and the construction of Chinese cyberspace

The biggest challengers to US companies’ web dominance currently hail from China. As in the United States, China is home to companies that did not exist at the turn of the Millennium, yet are now worth tens or even hundreds of billions of dollars. Here, too, law played a crucial role in constructing cyberspace.

We can identify at least three ways that law configured the geography of China’s cyberspace. First, and most obviously, the so-called Great Firewall of China helped keep certain foreign services out of the country.⁴⁵ The ostensible goal of the Chinese restrictions was to seek to create “a favorable online opinion environment for the building of a harmonious society”,⁴⁶ but the censorship regime benefited local internet competitors. It insulated services like Baidu’s search engine and Tencent’s QQ and WeChat messaging services from the full force of foreign competition from companies like Google, Facebook and Twitter.

At the same time, government interventions may have impeded any global ambitions of Chinese internet companies, which may have found it difficult to attract foreign users to services based in a country with few restraints on governmental snooping. This explains why Chinese companies have largely confined themselves within national borders. Elsewhere, I conclude as follows: “The Great Firewall of China not only keeps American Internet companies out of China, it keeps Chinese Internet companies in.”⁴⁷ The Chinese smartphone maker Xiaomi, which has established fairly robust overseas markets for its phones, is acting upon such concerns by moving data of people outside China to Amazon web servers in Singapore and Oregon.⁴⁸

Finally, a flexible intellectual property law might well have proven crucial for many Chinese internet enterprises that relied on contributions from their users or processed information from across the web. Searches for MP3s, often containing copyright infringing music tracks, accounted for more than a fifth of traffic to Baidu’s search engine in 2005 when the company went public.⁴⁹ The following year, the government clearly set out a safe harbour defence for internet intermediaries in the Regulations on the Protection of the Right to Network Dissemination of Information Networks 2006.⁵⁰ The Regulations created a “notice-and-takedown” regime that allowed internet websites to host information without fear of ruinous liability. As China contemplates amendments to its copyright law, it would do well to keep in mind the fact that its leading Internet enterprises could well find themselves crippled by poorly drafted copyright laws.

Conclusion

It may come as a surprise to many that US success with respect to internet enterprises may have come from relatively weak, not strong, intellectual property law. As WIPO, regional bodies and national governments consider intellectual property policy, they would do well to keep in mind that the geography of cyberspace may have been shaped as much or more by flexibilities in intellectual property law as by its rigor.

⁴⁴ Soumitra Dutta, Bruno Lanvin and Sacha Wunsch-Vincent (eds), *The Global Innovation Index 2014: The Human Factor in Innovation* (Geneva: Cornell University, INSEAD and WIPO, 2014), p.385.

⁴⁵ James Fallows, “The Connection Has Been Reset” *The Atlantic*, March 2008.

⁴⁶ Rebecca MacKinnon, “China’s Censorship 2.0: How Companies Censor Bloggers” *First Monday*, February 2, 2009, available at <http://firstmonday.org/ojs/index.php/fm/article/view/2378/2089> [Accessed October 22, 2014].

⁴⁷ Chander, *The Electronic Silk Road* (2013), p.196.

⁴⁸ Hugo Barra, “We’re Moving Your Data!”, available at <https://plus.google.com/+HugoBarra/posts> [Accessed October 22, 2014].

⁴⁹ Baidu.com Inc, “Form F-1”, p.13, July 12, 2005 (“According to Alexa.com, 22% of our traffic went to mp3.baidu.com, our MP3 search platform, as of July 9, 2005.”).

⁵⁰ Daniel Seng, “Comparative Analysis of the National Approaches to the Liability of Internet Intermediaries (Preliminary Version)”, available at http://www.wipo.int/export/sites/www/copyright/en/doc/liability_of_internet_intermediaries.pdf [Accessed October 22, 2014].