

Law and the Geography of Cyberspace

Anupam Chander*

Director, California International Law Center and Professor of Law, University of California, Davis

☞ 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

* Thanks to Madhavi Sunder and Peter Yu for insightful comments and to Quoc-Anh Mitchell Dao for helpful research assistance.

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 Deposits”, 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 Paolo 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].