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Incongruities of real and intellectual property: Economic concerns in patent policy and practice

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Incongruities of Real and Intellectual Property: Economic Concerns in Patent Policy and Practice

*Thomas D. Jeitschko**

February 2015

Ideas can be arduous to devise but are often relatively easy to reproduce once discovered and are hard—if not impossible—to “take back” once they have been shared. This raises problems of nonappropriability when it comes to the economic returns tied to ideas, resulting in the classic problem of underprovision, which is well known when it comes to public goods.¹ Who will spend the time and effort and keep the open mind that allows for the discovery or creation of the next great idea when any Tom, Dick, or Harry can come by and reap the rewards tied to it?

In many a textbook, one reads that patents are the legal construct that transforms intellectual property, in the form of such commercially valuable ideas, into private goods—much akin to real property—endowing the owner with the rights associated with such property, in particular the right to transfer the property to others and the right to exclude others from trespass upon the property.² Having

*. Professor of Economics, Department of Economics, College of Social Sciences, Michigan State University. This Article is based on my comments at the Michigan State Law Review Symposium *Public Domain(s): Law, Generating Knowledge, and Furthering Innovation in the Information Economy*, East Lansing, Michigan, October 2014. I wish to thank Adam Candeub for extensive discussion concerning the topic at hand and the Michigan State University Law Review editors, in particular Matthew Piccolo and William J. Cox, for very thorough and helpful editorial assistance.

1. See ROBERT COOTER & THOMAS ULEN, *LAW AND ECONOMICS* 126 (3d ed. 2000).

2. See, e.g., *id.* at 123. The analogy is likely tied to Kitch’s view of patents being a prospect system, in addition to a rewards system—a view formulated in the wake of Barzel’s model of the timing innovation. See Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. & ECON. 265, 266 (1977); see also Yoram Barzel, *Optimal Timing of Innovations*, 50 REV. ECON. & STAT. 348, 349-51 (1968). However, these models do not fit the inherent uncertainty tied to innovation, as both of these papers use as a starting point a known innovation that only needs to be executed, rather than the uncertain discovery process of research and development that is needed to find what is possible. See DAVID D. FRIEDMAN, *LAW’S ORDER: WHAT ECONOMICS HAS TO DO WITH LAW AND WHY IT MATTERS* 133 (2000).

thus overcome the problems of nonappropriability, it is argued that the mechanisms that safeguard the incentives to generate the efficient span of ideas are put in place and are secured.³

My main objective in this Article is not to debunk an at-best tenuous analogy tying the legal construct of patents to how we treat real property. However, there are two shortcomings in particular with this analogy that are worth spending some time on; namely, the abstract nature of what a patent ought to embody in contrast to the real nature of land, and the fundamental resource constraint that is tied to land that is not present in the realm of ideas.⁴ Understanding these differences then serves as a guide to some of the current economic concerns in patent policy and practice.

Thus, my argument is that a good guide to understanding many of the issues tied to codifying intellectual property in the context of patents is to focus on how patents are not and cannot be analogous to real property. In light of this, I draw out some of the experiences we currently are making in patent policy, practice, and law, and I conclude by noting that much of the focus on patents qua property may be missing the recognition that the patent system and its application also govern the transaction costs associated with the market for ideas, and this is critical to the proper functioning of the system.

AMORPHOUSNESS OF INNOVATION

The first point where the analogy between real property and patents fails and misleads is in the nature of the underlying subject matter: land exists in a real and tangible form. From time to time, we may adjust how we look at it, say in terms of erosion of coastlines and riparian rights on the surface; the bundling or unbundling of mineral and other resource rights underneath the surface; or the bundling or unbundling of air rights above the land's surface. In contrast, intellectual property covers ideas. These do not exist in any "real" form. There are no ready metes and bounds to which we can refer to delineate the scope or breadth of an idea and the associated

3. See Kitch, *supra* note 2, at 275-80.

4. JAMES BESSEN & MICHAEL J. MEURER, PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK 6-8 (2008) (giving constructive criticism of how to compare patents to tangible property in a much broader argument than the points that I raise here).

patent that shall characterize it for purposes of defining property rights.⁵ The metes and bounds that are to encapsulate the idea that becomes the patent need to be found; and as the process of innovation is an ongoing one,⁶ so then is the difficulty of the delineation of these rights.

What this means in practice is that even once a patent is granted, its scope is often not fully known or understood, or even knowable or understandable, when it comes to interpreting the impact on future ideas and finding the boundary to ideas that are yet to be thought or discovered. Indeed, frequently the very nature of innovation is “cumulative” and so the potential and scope of individual ideas take shape only in the wake of further innovation.⁷ For instance, some patents that were applied for and granted in the context of radio and telephony have later been asserted to cover e-commerce on the Internet in ways that were unimaginable at the time of issuance.⁸ Thus, relying ultimately on patents that address the production of personalized analogue cassette recordings, Personal Audio LCC filed suits against Apple, CBS, NBC, and (notably) against the radio personality Adam Carolla, as well as others, claiming that defendants’ podcasts infringed upon their patents.⁹ I refer to this defining feature that patents must address as the *amorphousness of innovation* that goes unrecognized when comparing patents to real property.¹⁰

5. *See id.* at 54.

6. *See* SUZANNE SCOTCHMER, INNOVATION AND INCENTIVES 127 (2004).

7. *See, e.g., id.* at 127-32.

8. Personal Audio LCC is a non-practicing entity that has been called a “patent troll.” Daniel Nazer & Julie Samuels, *EFF Files Challenge with Patent Office Against Troll’s Podcasting Patent*, ELECTRONIC FRONTIER FOUND. (Oct. 16, 2013), <https://www.eff.org/press/releases/eff-files-challenge-patent-office-against-trolls-podcasting-patent>. Electronic Frontier Foundation (EFF) has filed an *inter partes* review with the USPTO concerning their patents on grounds of prior art. *See* ELEC. FRONTIER FOUND., PETITION FOR INTER PARTES REVIEW OF U.S. PAT. NO. 8,112,504 (filed Mar. 4, 2009) (issued Feb. 7, 2012), *available at* https://www.eff.org/files/2013/10/16/_inter_partes_review_petition_of_us_pat._no._8112504.pdf. In April 2014 the Patent Trial and Appeal Board found a reasonable likelihood of success on the challenge. *Elec. Frontier Found. v. Personal Audio, LLC*, No. IPR2014-00070, 2014 WL 1604334, at *1 (P.T.A.B. Apr. 18, 2014).

9. *See* Nazer & Samuels, *supra* note 8; ELEC. FRONTIER FOUND., *supra* note 8, at 1-2.

10. BESSEN & MEURER, *supra* note 4, at 46 (comparing patents with tangible property, Bessen and Meurer succinctly put this as “[i]f you can’t tell the boundaries, [then] it ain’t property” (capitalization omitted)).

The problem that commercially relevant ideas can be amorphous is reflected in the fact that the purpose and effect of patents differ from one case to the next. Economists often like to differentiate between process and product innovations—the former improving on how something is produced or delivered in existing market places, the latter referring to the opening up of new (product) markets. While this is frequently a useful taxonomy in modeling innovation and markets, it obscures how many innovations actually fall in between these two classifications with the boundaries between cumulative/sequential/incremental innovation and displacing/modular/paradigm-shifting being blurred—or, amorphous. Yet, even when we have more clear delineations, economic impact frequently will carry across markets. Another frequently encountered method for distinguishing innovation is to look at the stages of innovation and then differentiate between foundational discoveries and marketable products;¹¹ where in an ideal world, the former might be granted broad protection of limited duration in order to recoup investments that are not forthcoming of direct commercialization while not impeding further-flung innovations over time, and the latter being afforded narrow scopes, as the commercial value is tied closely to the product that the patent applies to. However, here too, we suffer from the natural human desire to see linear narratives of creation, when in fact innovation is far from linear and actually a rather confused and chaotic process.

Apart from trying to classify these real, but hard-to-identify, differences in types of innovation, it must also be recognized that the guise of ideas varies from subject matter to subject matter. Thus, chemical compounds may be well enough defined to find an easy delineation of what might be regarded as being covered by a patent that is applied to it. But frequently, the commercial viability is not tied to the compound itself, but is rather tied to certain properties of the compound that may be replicated in what might be called substantially similar compounds—raising issues that are extensively discussed for intellectual property in the context of copyright

11. On the importance of this distinction and how it affects development with potentially overlapping patents, see Thomas D. Jeitschko & Nanyun Zhang, *Adverse Effects of Patent Pooling on Product Development and Commercialization*, 14 B.E. J. THEORETICAL ECON. 27, 27-32 (2014), who argue that patent pools are rare in biotechnology in contrast to electronics, because many patents in biotech cover foundational discoveries and pooling would impede further innovation incentives. See SCOTCHMER, *supra* note 7, at 146-52.

protection. Of course, the issues of what the extent of a patent is, how far it extends, and what all is covered by it, become more difficult once the underlying subject matter becomes more diffuse: processes of making things, business methods, software, financial instruments, etc. This, then, quickly raises the additional question of what type of subject matter can be patented at all: things found in nature, mathematical formulae, stock and commodity indices, etc.¹² The problematic also comes to the fore when considering advances that are characterized by implicit or tacit knowledge that is inherently hard to codify, but frequently critical to obtain; for instance, in the important area of biotechnology.¹³ While limits as to what can be patented and what the permissible scope may be have been recognized and enforced, there is nonetheless “mission creep” and ratcheting of boundaries observed in United States Patent and Trademark Office USPTO practice,¹⁴ as the very impossibility of a one-size-fits-all patent institution lends itself to error on the side of inclusion.

This all might not be an insurmountable problem if it were only a matter of finding (and maybe periodically revisiting) which ideas and how ideas should be patented. But the amorphousness of innovation raises the practical implication that even when a patent is issued there may be considerable doubt as to its actual scope and possibly even its validity. Thus, Lemley and Shapiro speak of “probabilistic patents” to capture the inherent uncertainty tied to the status of a given patent and how it should affect the conduct of others in the market place.¹⁵ Indeed, along this view, one may go so far as to say that a patent, rather than being a well-defined right of definite scope, is merely an instrument that gives the owner standing in a court of law in which the validity (presumed, but not affirmed) and

12. Intellectual property governed by copyright protection generally stems from federal statutes, whereas for patents Congress generally remains passive and the USPTO and the courts determine what subject matters fall under patent protection. See Kenneth W. Dam, *Intellectual Property in an Age of Software and Biotechnology*, in CHICAGO LECTURES IN LAW AND ECONOMICS 113, 113 (Eric A. Posner ed., 2000).

13. See, e.g., Thomas D. Jeitschko & Nanyun Zhang, *On the Challenges Facing Patent Pooling in Biotechnology*, 19 J. INTELL. PROP. RTS. 113, 118 (2014).

14. ADAM B. JAFFE & JOSH LERNER, INNOVATION AND ITS DISCONTENTS: HOW OUR BROKEN PATENT SYSTEM IS ENDANGERING INNOVATION AND PROGRESS, AND WHAT TO DO ABOUT IT 34-35 (2004).

15. Mark A. Lemley & Carl Shapiro, *Probabilistic Patents*, 19 J. ECON. PERSP. 75, 76 (2005).

scope can be ascertained. This has two important implications when it comes to determining the role of patents in channeling economic activity. The first is immediate: since economic activity, that is, innovation and competition, are directly affected by the allocation and boundaries of property rights, the process of competition and innovation is undertaken “in the shadow of the law”¹⁶ and, hence, takes on an air of uncertainty.¹⁷ What makes this even worse when compared to real property is that litigating one patent generally does not generate that much information applicable to other patents; whereas litigating the boundaries of real estate tells you not only where one property ends, but also where the next begins.¹⁸

The second important implication of “probabilistic patents” is derivative to the first.¹⁹ If it is ultimately the courts that lay out the existence and boundaries of (intellectual) property rights in piecemeal fashion,²⁰ then litigation becomes an integral part of the toolkit of economic rivals in the market place. And, thus, what is intended to be a legal institution that secures ownership entitlements to foster innovation has, in many instances, morphed into a weapon used to thwart the very innovation it was intended to protect; as new ideas are open to the potential charge of being transgressions on existing, but yet-to-be-fully-characterized, rights.

DYNAMISM OF INNOVATION

The second shortcoming of the patent-as-real-property analogy is tied to the first point, concerning the importance of distinguishing

16. See Robert H. Mnookin & Lewis Kornhauser, *Bargaining in the Shadow of the Law: The Case of Divorce*, 88 YALE L.J. 950, 997 (1979).

17. Amazon.com’s suit against Barnes and Noble’s express lane check-out option at bn.com could have led to clarity as to whether Amazon’s patent covering their 1-click checkout would have been upheld. The fact that the case was ultimately settled leaves the issue somewhat unresolved, although the preliminary injunction against Barnes and Noble was lifted on grounds that the patent would possibly have been found invalid. JAFFE & LERNER, *supra* note 14, at 74-75. In any event, since Apple has been paying a royalty for 1-click checkout in their iTunes store, there is a presumption now in the market place that the patent is valid. In contrast, Amazon’s 1-click patent application has been rejected in Europe. Tim Worstall, *Amazon Loses 1-Click Patent*, FORBES (July 7, 2011, 10:18 AM), <http://www.forbes.com/sites/timworstall/2011/07/07/amazon-loses-1-click-patent/>.

18. See BESSEN & MEURER, *supra* note 4, at 54-55.

19. See Lemley & Shapiro, *supra* note 15, at 76.

20. See Dam, *supra* note 12, at 113.

between the nature of real property and intellectual property. However, it also goes beyond that and it concerns how we endeavor to achieve efficiency in society from an allocative standpoint. In economic terms, allocative efficiency is achieved when a society finds a point on the Production Possibilities Frontier (PPF)—designating the loci of all possible combinations of goods and services that can be produced in a society with a given set of resources (including knowledge) without wasting any of those resources.²¹ When property rights are well defined and transactions costs are sufficiently low, we know from the Coase Theorem that an efficient allocation is attained through decentralized trade, even when there are externalities present.²² That is, with well-defined property rights and low transaction costs, societies achieve an allocation on the PPF.

The notion of achieving a point on the PPF, however, is a static concept—it deals with what can be attained, *for a given set of resources*.²³ And this is important for our discussion: When it comes to the efficient use of real property, so long as property rights are well defined and the transfer of title into the hands that values it most is not too costly, one will achieve allocative efficiency. But, apart from the aforementioned problem of amorphousness of innovation, the other fundamental difference between real property (land) and intellectual property is that the former is limited and is therefore part of the “given set of resources” that must be efficiently used to attain the PPF,²⁴ whereas much (virtually all) of the potential of the latter is

21. The question of where on the PPF a society finds itself is then tied to the question of distribution, rather than allocation. WALTER NICHOLSON & CHRISTOPHER SNYDER, *INTERMEDIATE MICROECONOMICS AND ITS APPLICATION* 4-5 (12th ed. 2015).

22. The Coase Theorem as such is not actually directly found in Coase’s writings. He develops a considerable amount of insight on the role of transaction costs in economics in his seminal article *The Nature of the Firm*, see R. H. Coase, *The Nature of the Firm*, 4 *ECONOMICA* 386, 396-97 (1937); and in his subsequent path breaking work on social costs, see R. H. Coase, *The Problem of Social Cost*, 3 *J.L. & ECON.* 1, 2-6 (1960), he essentially notes the main insights of what is known as the Coase Theorem, but Coase himself attributes the name to Stigler, who wanted to honor Coase. See The Univ. of Chi., *Ronald H. Coase: On Economics*, YOUTUBE (Apr. 23, 2012), <https://www.youtube.com/watch?v=04zFygmeCUA>. Coase himself actually had some trouble in how the Theorem is often cited, in that for Coase the critical insight is that in the real world we are faced with considerable transaction costs. *Id.*

23. NICHOLSON & SNYDER, *supra* note 21, at 4-5.

24. See *id.*

yet to be unlocked.²⁵ As a consequence, the two (real property and intellectual property) play a completely different role in achieving efficiency in society. The static recognition of the PPF does not account for the potential that is to be unlocked by protecting the ongoing process of innovation through ideas. Indeed, the nature of the patent—a grant of a temporary monopoly—speaks precisely to the trade-off we are willing to accept in recognition of the difference between a given limited resource such as land and the promise of a potentially limitless resource such as human inventiveness, creativity, and imagination. By granting a patent qua monopoly, we allow for current allocations below the PPF that are *ex definitione* inefficient,²⁶ precisely because the granting of patents protect the incentives that allow the PPF to expand and grow, yielding new allocation possibilities that are otherwise unattainable. Thus, the importance of property being well defined for given real resources is in order to achieve an allocation on the PPF; whereas, the importance of defining property for intellectual achievement is not to be on the PPF, but to expand the PPF. I refer to this important feature that patents must cover as the aspect of *dynamism of innovation* that is overlooked when comparing patents to real property.

The importance of recognizing the connection between change and growth can hardly be overstated, as we are in the midst of changes brought about as new-economy companies in the information economy find ways to generate, aggregate, replicate, protect, disseminate, and ultimately monetize information.²⁷ This, in

25. See SCOTCHMER, *supra* note 7, at 127.

26. It should be noted that just because a monopoly is granted to the inventor this does not imply an inefficient allocation of resources necessarily. See NICHOLSON & SNYDER, *supra* note 21, at 356. Market power distorts allocations and generally also then creates inefficiencies—deadweight loss. But as the example of perfect (first-degree) price discrimination (or perfect two-tier pricing) illustrates, allocative efficiency can be obtained in the presence of monopoly, as these particular pricing schemes convert all consumer surplus and all deadweight loss into profit. *Id.* at 355-56; Thomas D. Jeitschko, *Issues in Price Discrimination: A Comment on and Addendum to “Teaching Price Discrimination,”* by Carroll and Coates, 68 S. ECON. J. 178, 184 (2001).

27. The Information and Communication Technologies (ICT) sector accounts for nearly 4% of U.S. GDP, but 40% of U.S. patents. See DONALD D. KIM, BRIAN M. LINDENBERG & JUSTIN M. MONALDO, ANNUAL INDUSTRY ACCOUNTS: ADVANCE STATISTICS ON GDP BY INDUSTRY FOR 2008, at 28 (2009), available at http://www.bea.gov/scb/pdf/2009/05%20May/0509_indyaccts.pdf; NAT’L SCI. BD., SCIENCE AND ENGINEERING INDICATORS 2012, at 6-51 (2012), available at <http://www.nsf.gov/statistics/seind12/pdf/c06.pdf>.

itself, has ready implications for how the codification of intellectual property affects a large swath of economic activity in modern economies. However, there are three additional intertwined developments that are tied to the issues of amorphousness discussed above.

First, the catalogue of patentable subject matter grows over time as new notions of what should be patentable are added to the catalogue in response to changing market and business models, while existing subject matter is not discarded, especially as new methods are found to monetize existing patent forms beyond what originally served as the rationale for allowing patentability.²⁸ Thus, there is a ratchet in place that increases the scope of patentable subject matter.²⁹

Second, as underlying ideas are amorphous and the views and interpretation of ideas shift over time, the boundaries of the patents themselves are inevitably amorphous.³⁰ As more ideas enter the collection of material that is patented, patents inevitably begin to conflict and overlap, possibly creating blocking constellations that hinder applications of the knowledge embodied in the patents, resulting in a phenomenon referred to as the patent thicket: “a dense web of overlapping intellectual property rights that a company must hack its way through in order to actually commercialize new technology.”³¹

Lastly, over the last few years, the number of claims per patent and the sheer number of patents newly issued has increased dramatically.³² Thus, between 1997 and 2013 the number of total patent grants has more than doubled from under 125,000 to over 300,000, with an increase of over 25,000 just in the final year.³³ In the context of biotechnology, this has been coined a “patent

28. See Dam, *supra* note 12, at 118-20.

29. See *id.* at 118-19. On a related note, many have also seen an expansion of the spheres that patents cover, especially in the wake of the *Madey v. Duke University* case that curtailed the experimental use exception that many researchers had claimed for non-commercial purposes. 307 F.3d 1351, 1362-63 (Fed. Cir. 2002).

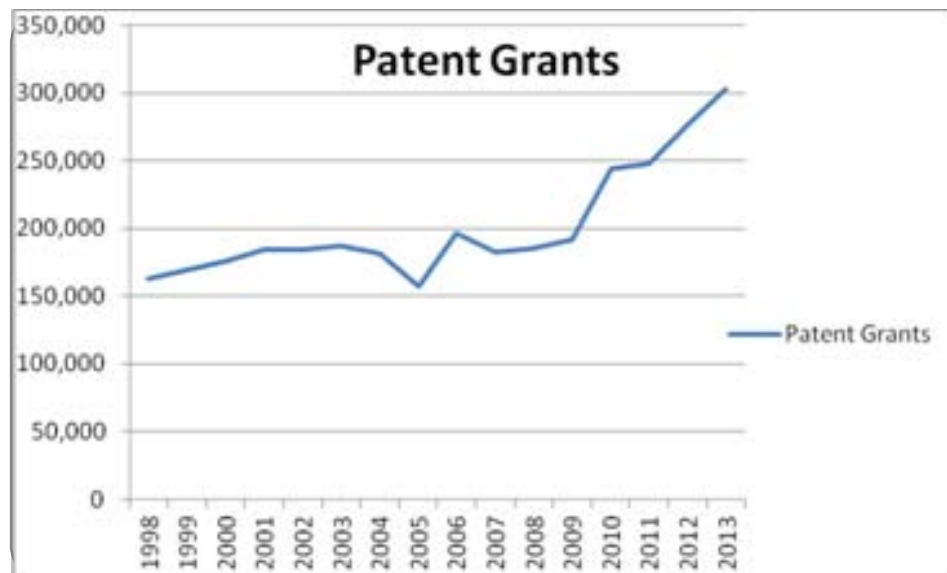
30. See Dam, *supra* note 12, at 123.

31. Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, in 1 INNOVATION POLICY AND THE ECONOMY 119, 120 (Adam B. Jaffe, Josh Lerner & Scott Stern eds., 2001).

32. Patent Tech. Monitoring Team, *U.S. Patent Statistics Chart Calendar Years 1963-2013*, USPTO (July 24, 2014, 6:22 PM), http://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm.

33. *Id.*

tsunami”³⁴; but the term may well apply more broadly. This explosive growth is in part a reflection of the tremendous growth in the importance and volume of knowledge that plays a role in the market place. But it is also a response to how patent policy and practice have evolved of late. Thus, thresholds imposed by the admittedly under-staffed USPTO are generally deemed in practice to be too low.³⁵ Moreover, with patents underdefined, and firms competing and innovating in the shadow of the courts where actual litigation or the threat of litigation has become a strategic tool among rivals in the market place, firms have every incentive to amass patents both for possible offensive and defensive purposes. As a result, many firms now patent innovations that beforehand would have been let go into the public domain.³⁶



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These trends feed off each other—expanding the subject matter that is patentable causes increases overlapping claims and furthers the importance of patents as tools in threatened or actual litigation,

34. Jacques Warcoï, *'Patent Tsunami' in the Field of Genetic Diagnostics: A Patent Practitioner's View*, in *GENE PATENTS AND COLLABORATIVE LICENSING MODELS: PATENT POOLS, CLEARINGHOUSES, OPEN SOURCE MODELS, AND LIABILITY REGIMES* 331, 331 (Geertrui Van Overwalle ed., 2009) (citing Kyle Jensen & Fiona Murray, *Intellectual Property Landscape of the Human Genome*, 310 *SCIENCE* 239, 239 (2005)).

35. JAFFE & LERNER, *supra* note 14, at 131.

36. *See id.* at 13-15.

37. *See* Patent Tech. Monitoring Team, *supra* note 32.

which leads to an amassing of patent portfolios.³⁸ Thus, for example, in 2012 over a quarter of a million active patents were specifically tied to the manufacture and sale of smartphones—that’s over a sixth of all active patents.³⁹ Such numbers lead to serious concerns as to the degree to which patent policy and practice protect and foster innovation. Of course, there are institutional responses to these trends; thus, in many instances open-source is seen as a disarmament tactic that can also make individual economic sense if there are strong enough network and scale effects that allow people to pocket the saving from not having to deal with the patent system. Otherwise, cross licensing, standard setting, and patent pools are all institutions that potentially overcome the patent thicket problems at least in some areas.⁴⁰ In return, however, all these institutions then squarely place the participants into the realm of antitrust scrutiny—an area that still needs to be further developed in light of the problems faced by firms.⁴¹

OUTLOOK

The problems surrounding the proper role of patenting in protecting and fostering innovation are currently under debate in policy circles—foremost so in the context of the supposition that so-called patent assertion entities (PAEs) have exploited the weaknesses of the current system in order to hold up other market participants.⁴² Thus, both the Whitehouse and the Federal Trade Commission

38. See JAFFE & LERNER, *supra* note 14, at 13-15, 56.

39. Daniel O’Connor, *One in Six Active U.S. Patents Pertain to the Smartphone*, DISRUPTIVE COMPETITION PROJECT (Oct. 17, 2012), <http://project-disco.org/intellectual-property/one-in-six-active-u-s-patents-pertain-to-the-smartphone/> (citing DAN L. BURK & MARK A. LEMLEY, *THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT* 27 (2009)).

40. See Shapiro, *supra* note 31, at 144.

41. See *id.*

42. Office of the Press Sec’y, *Fact Sheet - Executive Actions: Answering the President’s Call to Strengthen Our Patent System and Foster Innovation*, WHITE HOUSE (Feb. 20, 2014), <http://www.whitehouse.gov/the-press-office/2014/02/20/fact-sheet-executive-actions-answering-president-s-call-strengthen-our-p>; *Patent Assertion Entities (PAE) Study*, FED. TRADE COMMISSION, <http://www.ftc.gov/policy/studies/patent-assertion-entities-pae-study> (last visited Mar. 1, 2015); see also MPHJ Technology Investments, LLC, Jay Mac Rust, and Farney Daniels, P.C.; Analysis to Aid Public Comment, 79 Fed. Reg. 67,435, 67,436 (proposed Nov. 13, 2014) (containing the consent decree between FTC and MPHJ Technology Investments).

(FTC) have become active in the policy debates and the FTC is undergoing studies and litigation concerning PAEs.⁴³ Courts have also begun taking a responsive, rather than a dogmatic, approach.⁴⁴

In addition to the political and legal discussions surrounding standard-setting entities and Fair, Reasonable, and Non-Discriminatory (FRAND) licensing, courts have also placed a wedge between patents and the traditional model of property. Thus, since the *e-Bay Inc. v. MercExchange, L.L.C.* 2006 ruling,⁴⁵ affirmed in the *Winter v. Natural Resources Defense Council, Inc.* 2011 U.S. Supreme Court ruling, injunctive relief is no longer the default for transgressions against patentholders.⁴⁶ This is an important shift, as it directly affects how patents might be used in litigation. However, the case law in the area is actively evolving, as evidenced in the recent *Trebro Manufacturing, Inc. v. Firefly Equipment, LLC* case in which injunctive relief was upheld despite the patentholder not using the infringed patent.⁴⁷ The decision hinged upon the fact that the two firms were direct competitors in the market place, with the infringing firm using the intellectual property to compete against the patentholder.⁴⁸

The 2013 U.S. Supreme Court case over the BRCA1 and BRCA2 genes, in which it was ruled that while surrounding know-how is patentable, genes themselves are not, suggests that courts are weary of the ever-expanding subject matter of patents.⁴⁹ And similarly, there are movements to increase the threshold for the granting of patents in areas in which patentability itself is undisputed; e.g., in *In re Kubin*, the Federal Circuit Court of Appeals found that “obvious to try” is a proper and sufficient basis to determine whether an idea was obvious or not.⁵⁰

Overall, patent law, patent policy, and patent practice are and have been undergoing changes. With a nod to Coase,⁵¹ one might say

43. See *supra* note 42.

44. See *infra* text accompanying notes 45-53.

45. 547 U.S. 388, 394 (2006).

46. 555 U.S. 7, 24 (2008).

47. 748 F.3d 1159, 1171-72 (Fed. Cir. 2014).

48. *Id.*

49. Ass’n for Molecular Pathology v. Myriad Genetics, Inc., 133 S. Ct. 2107, 2120 (2013).

50. 561 F.3d 1351, 1359 (Fed. Cir. 2009) (internal quotation marks omitted).

51. See *supra* note 22 and accompanying text.

that much of the evolution has been associated with trying to get property rights “well defined” in this inherently amorphous and dynamic space. It appears that many of these efforts have been counterproductive, whereas others have helped clarify matters, and maybe pushed the discussion into the realm of competition and antitrust policy and away from property rights.⁵² For some, these changes are not pushing us in the right direction, and they conclude that the right path is to abolish the patent system altogether.⁵³

However, again with a nod to Coase,⁵⁴ it is worth noting that in the quest to define the system of rights, it might be best to directly target the level of transaction costs associated with establishing and transferring these rights. Reforms in these areas could lead to a tightening of the delineation of boundaries at the stage of granting patents with overall much higher barriers, rather than *de facto* deferring to courts in many instances. It can be helpful to allow for free use of intellectual property in cases in which patentholders are suffering no more than minor damages and transgressors are not reaping large gains that could not be otherwise obtained but for the transgression. And, finally, to use an analogy from real property that would be valuable to have in place, it would substantially lower transaction costs if patentholdership were centrally registered with a USPTO clerk,⁵⁵ just as the transfer of real property requires a deed being recorded with the county clerk.⁵⁶

52. *See supra* text accompanying notes 45-50.

53. MICHELE BOLDRIN & DAVID K. LEVINE, *AGAINST INTELLECTUAL MONOPOLY* 243 (2008).

54. *See supra* note 22 and accompanying text.

55. Currently, the USPTO tracks assignments that are submitted voluntarily, but they simply make this data available without checking for reliability or veracity. *See Assignment Search*, USPTO, <http://assignment.uspto.gov/> (last visited Mar. 1, 2015). In the words of the USPTO: “Recordation is a ministerial function—the USPTO neither makes a determination of the legality of the transaction nor the right of the submitting party to take the action.” *Id.*

56. *See* BESSEN & MEURER, *supra* note 4, at 54-55.

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