

Inventing Invention: A Case Study of Legal Innovation

“[T]he so-called patentability requirement was invented by the Americans, in particular the Justices of the U.S. Supreme Court in the famous case *Hotchkiss v. Greenwood* in 1850.”¹

This is a story about innovation — legal innovation. At the beginning of the nineteenth century, all countries having patent systems generally required patentable inventions to be both *new* and *useful*. Those two requirements have now been joined by a third: Patentable inventions must be *new*, *useful* and *nonobvious*. This development is not unique to the law of the United States. Every nation in the World Trade Organization applies these three standards in awarding patents.²

Though nonobviousness is the most recently developed of the three requirements for obtaining a patent, it now generally considered to be the defining feature of invention. Indeed, in United States, what is today called “nonobviousness” was for about a century known as the “invention doctrine.” In many countries, it is still known as “inventive step” or simply *the* patentability requirement (as in the above quote). The doctrine is widely understood to be so fundamental to the proper functioning of the patent system that it can be accurately described as the “final gatekeeper of the patent system,”³ the “ultimate condition of patentability,”⁴ and “the heart of the patent law.”⁵ This Article traces how this defining doctrine of invention was itself invented by the world legal culture.

¹ See, e.g., Freidrich-Karl Beier, *The Inventive Step in its Historical Development*, 17 Intern’l Rev. Indus. Prop. & Copyright L. (IIC) 301, 304 (1986).

² See TRIPs Article 27.1, which requires member countries to award patents for all inventions that “are new, involve an inventive step and are capable of industrial application.” A footnote defines “‘inventive step’ and ‘capable of industrial application’ ... to be synonymous with the terms ‘non-obvious’ and ‘useful’ respectively.” *Id.* n.5. In many countries that use the “inventive step” test for patentability, the term “inventive step” is specifically defined to refer to something that is “not obvious to a person of ordinary skill in the art.” See EPC art. 56; UK Patent Act; German Patent Act art. 4, English translation available at http://www.jpo.go.jp/shiryoku_e/s_sonota_e/aippi_e/germany/pl/mokuji.htm (similar); Brazilian Patent Act, art. 13, English translation available at http://www.jpo.go.jp/shiryoku_e/s_sonota_e/aippi_e/brazil/ipl/mokuji.htm (“An invention shall be considered as involving inventive step if, having regard to the state of the art, it is not evident or obvious to a person skilled in the art.”). The parallel provisions in the Japanese and Korean Patent Acts use language that is typically translated as barring inventions that “could easily have been made.” See Patent Act of 1959, art. 29(2), translation reprinted in Examination Guidelines for Patent and Utility Model chap. 2, at 16 (JPO 2000), available at http://www.jpo.go.jp/tetuzuki_e/t_tokkyo_e/Guidelines/PartII-2.pdf; see also Korean Patent Act, art. 29(2), translation available at http://www.kipo.go.kr/kpo/eng/info_doc/data/PatentAct.pdf.

³ ROBERT P. MERGES AND JOHN F. DUFFY, *PATENT LAW AND POLICY* 644 (3rd ed. 2002).

⁴ NONOBVIOUSNESS — THE ULTIMATE CONDITION OF PATENTABILITY (John F. Witherspoon ed. 1980).

⁵ Federal Trade Commission, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy*, Chap. 4, at 2 (Oct. 2003).

For scholars of intellectual property law, this history provides significant insights into the proper functioning and continued development of patent law. For example, one great puzzle posed by this history is how early patent systems could possibly have functioned without any doctrine similar to what is now seen as a central and fundamental pillar of innovation law. To a great extent, the emerging modern theory of nonobviousness helps to solve this puzzle: Modern theory predicts that the nonobviousness doctrine plays its most important role where society and technology is experiencing rapid change. In a more static society, theory predicts that the nonobviousness doctrine would be less important. Here history and theory are mutually reinforcing, for the nonobviousness doctrine did not develop until it was demanded by the rapid technological and social changes of the nineteenth century.

The case study presented in this article is also of much more general interest. Change is endemic in law. Law review articles are filled with tales of the “development” or “evolution” of law. Each new judicial decision, each new piece of legislation, even each new legal argument crafted by ordinary lawyers brings some small increment of novelty and change to the law. All lawyers, judges and legislators know this to be true, and it has become a shibboleth that the law must change, grow and develop as social conditions do. Yet despite the omnipresent recognition of legal change, only few scholars (Judge Posner is one) have devoted substantial attention to the processes by which legal precedents develop and change over a substantial period time. The existing scholarly treatments of legal change are invariably primitive. Legal change is treated as if it is something that just happens — that follows inexorably from the emergence of social needs and changed social conditions. Legal precedent is analogized to fungible capital stock,⁶ or to sequential chapters in a chain novel.⁷

The historical rise of the nonobviousness standard reveals more depth and texture into the process of legal change, and it introduces a new element — the possibility of true innovation in law. True innovation here means not merely any change but one that is an intellectual advance. Although the process of legal innovation appears to be based largely on trial-and-error, intellectual justifications appear essential for the continued development and ultimate success of the innovation. Innovation can occur at any level in the legal hierarchy, though it usually begins humbly. At the lowest level, litigants in practical disputes are constantly casting about for new angles and new arguments that might help to clarify, develop or change the law, and lower courts accept or reject these suggested changes. The accepted innovations can either grow, as other courts adopt them and provide further articulation and rationales for them, or wither, as other courts narrow or reject them. Successful doctrines eventually receive greater permanence as courts higher in the hierarchy endorse them. Higher still in the hierarchy, the legislature can choose whether to codify doctrines developed in the courts. Uncodified doctrines may wither as they remain subject to the common-law process of continual reinterpretation and modification. But codified doctrines can become pillars of the law. They can — as the nonobviousness

⁶ Richard Posner, *Economic Analysis of Law* § 20.1, at 509-10 (3rd ed. 1986).

⁷ See Dworkin.

requirement has — become part of the law of other jurisdictions and enshrined in world-wide treaties.

Legal innovations do not, however, always begin at the bottom of the legal hierarchy. Novel developments can also come directly from a legislature. Unprecedented legislative developments may start small — perhaps as mere exceptions to more general rules. In the process of litigation, courts will attempt to articulate justifications for the exception, and those justifications will lead to either more generous or grudging application of the rule. Scholarly commentators too play a role, though traditionally that role has been largely limited to creating justifications for existing innovations. The process of justification is essential for the survival of the innovation, for unjustified rules do not seem to thrive. In the end, a legal innovation can truly be said to be successful when it is widely excepted and sufficiently justified.

The history provided here shows one successful doctrine that has grown up and conquered the world, and also many failed doctrines that had promising beginnings but then withered. The most striking feature of this history is its time scale: Legal innovations take decades, even centuries, to develop. Moreover, legal doctrines later seen to reflect deeply flawed policy can remain stable law for large portions of a century before their downfall. This result has obvious relevance to the great debate over the so-called “positive theory” of economic analysis of law, which posits that various areas of law are “best explained as if the judges who created the law through decisions operating as precedents in later cases were trying to promote efficient resource allocation.”⁸ Even among scholars who are economically sophisticated, this theory has been highly controversial.⁹ The area of patent law is a particularly attractive area to test the positive theory of economic analysis because, unlike many other areas such as tort and criminal law, the patent system has long been based on the utilitarian considerations, rather than consideration of fairness or justice.

The history of the nonobviousness doctrine shows that, in the very long run, considerations of economic efficiency do put pressure on legal actors (not only judges but

⁸ William M. Landes and Richard A. Posner, *The Economic Structure of Tort Law* 1 (Harvard 1987). Though this famous articulation of the “positive” economic analysis of law was written specifically about tort law, it has been applied more generally too. See generally, Richard A. Posner, *Economic Analysis of Law* 6 (Little, Brown 1972) (defining a “positive role” for economic analysis of law in “explaining the rules and outcomes of the legal system as they are” and positing that “[s]ince judges are frequently called upon to decide cases in which economic factors are inescapable, it is not surprising that they should frequently decide in accordance with an intuitive perception of cost and efficiency”). Cf. Priest, *The Common Law Process and the Selection of Efficient Rules*, 6 *J. Leg. Stud.* 65 (1977); Kornhauser, *A Guide to the Perplexed Claims of Efficiency in Law*, 8 *Hofstra L. Rev.* 591 (1980); Posner, *A Reply to Some Recent Criticisms of the Efficiency Theory of the Common Law*, 9 *Hofstra L. Rev.* 775 (1981).

⁹ See, e.g., Richard A. Epstein, *The Economics of Tort Law: A Hurried and Partial Overview*, 10 *KAN. J.L. & PUB. POL’Y* 60, 64 (2000) (“it turns out that the positive economic analysis of law says that you people have been doing it right all along, even though you do not know a word about the subject, for which I think the caveat is: if that is the case, then let’s say that ignorance is bliss and the less you learn about economics the better we will all be”).

legislators, commentators, attorneys and other actors in the legal culture) to create, to adopt and to justify economically efficient doctrines. However, the relevant time span within which those considerations can operate is very long — on the order of several decades at least.

Law develops like a technology. Engineers have incentives to make their products as efficient as possible, but those incentives do not mean that our past, present or future technologies are free from imperfections and inefficiencies. So too, the law at any point in time may be riddled with problems and imperfections. As time passes, the law progresses, though not always linearly (law too has its failed experiments). If there is a major difference between law and other technologies, it lies in the extraordinarily weak and sluggish mechanism for progress in law. The success or failure of an experiment in law cannot be immediately measured, and it may never be subject to rigorous empirical proof. Moreover, the incentives of those improving law are terribly weak and subject to corruption.

This case study is not, it should be emphasized, a denial of the positive theory of economic analysis of law. But it does highlight the caveats on the theory. The positive theory of economic analysis of law should “not [be] conceived as asserting a perfect congruence between law and efficiency.”¹⁰ “The incentives of judges [and, we might add, legislators, commentators and other legal actors] to fashion efficient doctrine are weak.”¹¹ The limitations of any positive theory of economic analysis does not militate against applying economic analysis to law. Rather those limitation suggest that economic analysis of law should have a more unabashedly normative component, which might facilitate innovation and progress in law.

¹⁰ Landes and Posner, *Economic Structure of Tort Law* at 24

¹¹ Landes and Posner, *Economic Structure* at 28. As Judge Posner has noted elsewhere, the compensation of judges and lawyers does not directly depend on their production of good precedent for they receive no royalties even if they help to produce a precedent that guides thousand of future cases. Posner, *Economic Analysis* § 20.2 at 554 (6th ed.).