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THE TRESPASS FALLACY IN PATENT LAW

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The patent system is broken; so says the popular press, tech commentators, legal academics, lawyers, judges, and just about everyone else. One common refrain is that patents fail as property rights because patent infringement doctrine is not as clear, determinate and efficient as trespass doctrine is for real estate. This essay explains that this is a fallacious argument, suffering both logical and empirical failings. Logically, the comparison of patent boundaries to trespass commits what philosophers would call a category mistake. It conflates the boundaries of an entire legal right (a patent), not with the boundaries of its conceptual counterpart (real estate), but rather with a single doctrine (trespass) that secures real estate only in a single dimension (geographic boundaries). Estate boundaries are defined along the dimensions of time, use and space, as reflected in numerous legal doctrines that secure estates, such as adverse possession, easements, nuisance, restrictive covenants, and future interests, among others. The proper conceptual analog for patent boundaries is estate boundaries, not fences. Empirically, there are no formal studies of how trespass or even estate boundaries function in litigation; thus, complaints about the patent system's indeterminacy are based solely on an idealized theory of how trespass should function; it's the nirvana fallacy. Furthermore, anecdotal evidence and related studies suggest that estate boundaries are neither as clear nor as determinate as patent scholars assume it to be. In short, the trespass fallacy is driving an indeterminacy critique in patent law that is both empirically unverified and conceptually misleading. Until the indeterminacy critique is properly modeled and grounded in facts, legislators and courts might want to pause before continuing to make fundamental structural changes to the American patent system.

I. Introduction

The patent system is broken. So says the conventional wisdom today. It is expressed in both the popular press¹ and academic scholarship.² The Supreme Court agrees, deciding patent cases in recent years at a rate not seen since the mid-nineteenth century.³ Congress was even

* Professor of Law, George Mason University School of Law. For comments on earlier drafts, thank you to Jonas Anderson, Brenna Jenny, Amy Mossoff, and to the participants at the Intellectual Property Scholars Conference at Cardozo Law School, the Property Works in Progress Conference at Fordham University School of Law, and a faculty workshop at Louisiana State University Paul M. Herbert Law Center. Matt Roberts provided research support, and this Essay was made possible by a Searle Faculty Fellowship.

¹ See, e.g., Vivak Wadhwa, *Where are the jobs? Ask the patent trolls*, WASH. POST, May 7, 2012; Christina Mulligan, *Let's Ditch Software Patents*, WASH. POST, Apr. 19, 2012; *Patently Obvious*, ECONOMIST, May 5, 2007, at 78; Editorial, *Patently Flawed*, BOSTON GLOBE, July 23, 2007, at A10; Editorial, *Patently Absurd*, WALL ST. J., Mar. 1, 2006, at A14; James Gleick, *Patently Absurd*, N.Y. TIMES MAG., Mar. 12, 2000, at 44.

² See generally DAN L. BURK & MARK A. LEMLEY, *THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT* (2009); JAMES BESSEN & MICHAEL J. MEURER, *PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK* (2008); 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* 171 (2004).

³ See Adam Mossoff, *Exclusion and Exclusive Use in Patent Law*, 22 HARV. J.L. & TECH. 321, 321-22 (2009) (comparing seven recent cert grants to the eight cases decided by the Court in 1853). Since 2009, the Supreme Court has decided another five patent cases, and it has signaled that it is willing to consider even more, such as its recent Grant, Vacate and Remand (GVR) Order in the *Myriad* case on the patentability of isolated genes.

awoken from its deadlocked slumbers by the clarion call for reform of the patent system, swiftly enacting the America Invents Act of 2011⁴ in response to the wide-ranging calls to ensure better quality patents. As one commentator has observed, “The cry to ‘improve patent quality’ is heard anywhere patent lawyers gather and is a centerpiece of many of the political and academic establishments’ major reform agendas. . . . [T]he need to improve patent quality is essentially undisputed.”⁵ Dissenting voices, often consisting of patent-owners negatively affected by these judicial and legislative actions, are few and far between.⁶

The complaints about the patent system run the gamut—from patents being granted on discoveries or inventions that should be excluded from the patent system⁷ to run-away patent litigation imposing ruinous costs on inventors and firms.⁸ But one common refrain is that patents are simply too vague and indeterminate to function properly as property rights. This *indeterminacy critique* undergirds many of the complaints about patent quality; Justice Anthony Kennedy, for instance, observed that improperly granted patents are a problem because they are vague and indeterminate.⁹ This critique seems to have particular traction when it comes to software patents, and whole conferences are now dedicated solely to fixing “the software patent problem.”¹⁰ Proposed reforms range from outright elimination of software patents to various doctrinal tweaks in how software patents are issued and enforced.¹¹

The indeterminacy critique has particular salience in patent law because patents are legal documents that must be interpreted by judges, investors, competitors, and inventors in various institutional and market contexts. In patent litigation, the interpretation of patents by courts, especially of the patent claims that define the “metes and bounds” of the property right in the invention, is widely viewed as being in disarray. Although the Court of Appeals for the Federal Circuit was created in 1982 to help bring uniformity in patent law, recent studies report reversal

⁴ An Act to Reform Title 35, To Provide for Patent Reform, Pub. Law 112-29 (2011).

⁵ R. Polk Wagner, *Understanding Patent-Quality Mechanisms*, 157 U. PA. L. REV. 2135, 2135 (2009).

⁶ See, e.g., Kenneth Lustig, *No, the Patent System is Not Broken*, FORBES, Feb. 9, 2012.

⁷ *Mayo Med. Labs. v. Prometheus Labs.* (U.S. S. Ct., decided Mar. 20, 2012) (rejecting as an unpatentable “law of nature” a medical treatment method covering correlations of doses of medication with toxicity levels in the blood); *Bilski v. Kappos*, 130 S. Ct. 3218 (2010) (rejecting as an unpatentable “abstract idea” a business method covering hedging of risk in the sale of commodities).

⁸ See, e.g., Paul Barrett, *Apple’s Patent War Seen Leading to Retaliatory Strikes*, BLOOMBERG BUSINESSWEEK (Mar. 29, 2012), available at <http://www.businessweek.com/news/2012-03-29/apple#p1> (last visited June 19, 2012).

⁹ See, e.g., *eBay Inc. v. Mercexchange, L.L.C.*, 547 U.S. 388, 397 (2006) (Kennedy, J., concurring) (complaining about the “potential vagueness and suspect validity” of “patents over business methods”).

¹⁰ See “Solutions to the Software Patent Problem” Conference, Santa Clara University School of Law, Nov. 16, 2012.

¹¹ See, e.g., BESSEN & MEURER, *supra* note 2, chpt. 9 (discussing generally the many problems caused by “abstract” and vague software patent claims); Mulligan, *Let’s Ditch Software Patents*, *supra* note 1; Mark Cuban, *My Suggestion on Patent Law*, BLOG MAVERICK, Aug. 7, 2011, available at <http://blogmaverick.com/2011/08/07/my-suggestion-on-patent-law/> (proposing eliminating software patents in part because “[u]ncertainty is never good”); Timothy B. Leigh, *What Patent Lawyers are Clueless About the Software Industry*, The Atlantic, Mar. 23, 2012, available at <http://www.theatlantic.com/business/archive/2012/03/why-patent-lawyers-are-clueless-about-the-software-industry/254963/> (“A major reason for the recent explosion of patent litigation is that it’s hard for software firms to figure out which patents they’re in danger of infringing.”).

rates on questions of claim interpretation between 30% and 44%.¹² Some studies have reported that the interpretation of a patent by the Federal Circuit is heavily panel dependent.¹³ One federal district court judge, Sameul Kent, famously complained after a string of reversals that the Federal Circuit is full of “little green men who don’t know Tuesday from Philadelphia.”¹⁴ As a result of this state of affairs, some patent scholars now refer to patents as “probabilistic rights” or “contingent property rights,” because the precise scope of the property right is unclear until an infringement lawsuit has run its full course, including the result of the inevitable—and unpredictable—appeal to the Federal Circuit.¹⁵

This Essay maintains that this indeterminacy critique—that vague and uncertain patents are failing to function properly as property rights—is fundamentally mistaken. To be clear, the indeterminacy critique as such is not improper or invalid. The lack of clarity in the law is a legitimate basis for calls for reform. But the indeterminacy critique, like all normative evaluations, is based on a *standard* of judgment. The indeterminacy critique is based on the assumption that patents should function just as *trespass doctrine* does in real property—the former should be as clear and as determinate as the latter. This appeal to trespass is fundamentally mistaken on both conceptual and empirical grounds, and as a result it has produced an unsound and unverified normative critique in patent law that is driving policy prescriptions, court decisions and legislation.

This Essay will explain in three parts how patent law scholarship and jurisprudence is dominated by a *trespass fallacy* and why this matters. First, it will describe how judges and commentators have long analogized patent infringement to trespass, but the indeterminacy critique turns this analogy on its head by converting this analogy into an allegedly robust normative standard of evaluation. In doing so, it inadvertently creates a fallacy—the trespass fallacy. This is a fallacy in two respects: one is logical and the other is empirical, and the last two parts of this Essay will explain why this is so. The logical consists of what philosophers would call a *category mistake*. It conflates an entire legal right (title) with a single doctrine (trespass) that secures this title only in a single dimension (geographic boundaries). The empirical error is that there are no formal empirical studies of how real estate boundaries function in litigation; thus, the indeterminacy critique uses the idealized theory of how trespass is supposed to function as an alleged empirical standard of comparison in evaluating the efficiency of the patent system. In short, the trespass fallacy is driving an indeterminacy critique in patent law that is both unverified and misleading. In the words of the advocates of the indeterminacy critique, it “substitutes rhetoric for reasoned policy.”¹⁶

¹² See Michael Saunders, *A Survey of Post-Phillips Claim Construction Cases*, 22 BERKELEY TECH. L.J. 215 (2007) (reporting on reversal rates between 35% to 44%); Kimberly A. Moore, *Markman Eight Years Later: Is Claim Construction More Predictable?*, 9 LEWIS & CLARK L. REV. 231, 232-34 (2005) (34.5% reversal rate); Andrew T. Zidel, *Patent Claim Construction in the Trial Courts: A Study Showing the Need for Clear Guidance from the Federal Circuit*, 33 SETON HALL L. REV. 711 (2003) (41.5% reversal rate); Christian A. Chu, *Empirical Analysis of the Federal Circuit's Claim Construction Trends*, 16 BERKELEY TECH. L.J. 1075 (2001) (44% reversal rate).

¹³ See R. Polk Wagner & Lee Petherbridge, *Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance*, 152 U. PA. L. REV. 1105 (2004).

¹⁴ Victoria Slind-Flor, *The Markman Prophecies*, IP WORLDWIDE, March 13, 2002, at 28, 30.

¹⁵ See Mark A. Lemley & Carl Shapiro, *Probablistic Patents*, 19 J. ECON. PERSP. 75 (Spring 2005).

¹⁶ BESSEN & MEURER, *supra* note 2, at 257 (“The problem with mistaking abstract conceptions of property for the real thing is that this substitutes rhetoric for reasoned policy.”).

II. Patents as Title Deeds and Patent Infringement as Trespass

It is neither surprising nor unusual for courts and scholars today to analogize patent infringement to trespass. Patents have long been identified as property rights in American law. Early American courts conceptualized patents in the same terms as common law property rights, and thus they relied on and employed concepts, doctrines and rhetoric from real property in crafting the doctrines that now comprise the American patent system.¹⁷

From the very first years of the American patent system, courts identified patents as “titles” or “title deeds.”¹⁸ To take just one illustrative example: In 1848, Justice Levi Woodbury, riding circuit, instructed a jury in a patent infringement trial that “[a]n inventor holds a property in his invention by as good a title as the farmer holds his farm and flock.”¹⁹ Patent infringement was thus analogized to “trespass”²⁰ because, as Justice Bushrod Washington, riding circuit, explained in 1817, a violation of a patent is “an unlawful invasion of property.”²¹

This historical practice of conceptualizing patents as title deeds and analogizing patent infringement as trespass continued into the twentieth century. The Supreme Court embraced it at the turn of the twentieth century,²² and, following its creation in 1982, the Federal Circuit continued this practice, referring repeatedly to patent claims as that “which define the metes and bounds of the invention”²³ and to patent infringement as “trespass.”²⁴ Thus, no one expressed

¹⁷ See Adam Mossoff, *Who Cares What Thomas Jefferson Thought About Patents? Reevaluating the Patent “Privilege” in Historical Context*, 92 CORNELL L. REV. 953, 989-1009 (2007) (concepts, rhetoric and some basic doctrinal approaches); see also Adam Mossoff, *Commercializing Property Rights in Inventions: Lessons for Modern Patent Theory from Classic Patent Doctrine*, in COMPETITION POLICY AND PATENT LAW UNDER UNCERTAINTY: REGULATING INNOVATION 345-377 (Geoffrey Manne & Joshua Wright eds., Cambridge University Press, 2011) (conveyance doctrines); Adam Mossoff, *Patents as Constitutional Private Property: The Historical Protection of Patents Under the Takings Clause*, 87 B.U. L. REV. 689, 700-07 (2007) (protection under the Takings Clause).

¹⁸ See Mossoff, *Reevaluating the Patent “Privilege,”* *supra* note 17, at 994 n.194 (listing numerous nineteenth-century cases in which judges identified patents as titles).

¹⁹ *Hovey v. Henry*, 12 F. Cas. 603, 604 (C.C.D. Mass. 1846) (No. 6,742).

²⁰ *Id.* at 993 n.192 (listing patent cases referring to or citing common law cases involving trespass).

²¹ *Gray v. James*, 10 F. Cas. 1019, 1021 (C.C.D. Pa. 1817) (No. 5,719).

²² See, e.g., *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 510 (1917) (explaining that the “scope of every patent . . . have been aptly likened to the description in a deed”) (citations omitted); *United States v. Societe Anonyme Des Anciens Etablissements Cail*, 224 U.S. 309, 311 (1912) (explaining that “the question being only for the present whether such use was a trespass upon the rights of the claimant”).

²³ *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 759 (Fed. Cir. 1984); see also *Kara Tech. Inc., v. Stamps.com Inc.*, 582 F.3d 1341, 1347 (Fed. Cir. 2009) (“It is the claims that define the metes and bounds of the patentee’s invention.”); *Scaltech Inc. v. Retec/Tetra, L.L.C.*, 178 F.3d 1378, 1383 (Fed. Cir. 1999) (“A claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using, or selling the protected invention.”); *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989) (“A claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using, or selling the protected invention.”).

²⁴ *Voda v. Cordis Corp.*, 476 F.3d 887, 901 (Fed. Cir. 2007); see also *Hoechst-Roussel Pharm., Inc. v. Lehman*, 109 F.3d 756, 759 (Fed. Cir. 1997) (“With respect to direct infringement, then, the claims define the patent owner’s property rights whereas infringement is the act of trespassing upon those rights.”); *King Instruments Corp. v. Perego*, 65 F.3d 941, 947 (Fed. Cir. 1995) (“An act of infringement—i.e., making, using, or selling the patented invention “without authority,” 35 U.S.C. § 271(a) (1988)—trespasses on this right to exclude.”).

shock or confusion when Judge Frank Easterbrook stated at a conference in 1990 that “[p]atents give a right to exclude, just as the law of trespass does with real property.”²⁵

In recent years, though, patent scholars have fixated on the trespass analogy and on the related simile that patent claims are the equivalent of fences around a parcel of land.²⁶ As one patent scholar bluntly puts the point: “Patent law is about building fences.”²⁷ Of course, as will be explained later, there is a subtle conflation here between metes and bounds and fences, i.e., between the description in a deed of the boundaries of the legal concept of real estate and the physical demarcation of the boundaries of a parcel of earth secured as real estate. The important point here is that patent scholars took an analogy and a related simile that originally served an *explanatory* function in framing the property doctrines in patent law and transmogrified it into a *normative* standard for evaluating the operation of the patent system as such.

This subtle but important shift from descriptive framing device to normative standard of evaluation occurred without much comment, but it did occur. The invocation of the trespass standard—real property has clear physical boundaries secured by a determinate legal doctrine—is omnipresent in the complaints today about the broken patent system today. For instance, Michael Meurer and James Bessen explicitly state in their famous book, *Patent Failure*, that “An ideal patent system features rights that are defined as clearly as the fence around a piece of land.”²⁸ In *Fixing Patent Boundaries*, T.J. Chiang contrasts the “vague” and “easily changed” patent claims with the “stable boundaries” provided by “a fence that is crystal clear.”²⁹ This is a problem that demands a solution, according to Professor Chiang, because this “lack of stable boundaries . . . has sparked an explosion in patent litigation, and acts as a deterrent to productive investment in manufacturing, research, and innovation.”³⁰ Other scholars use the trespass standard to argue that we should reject the claim that patents are conceptually and doctrinally equivalent to property rights.³¹

²⁵ Frank H. Easterbrook, *Intellectual Property is Still Property*, 13 HARV. J.L. & PUB. POL’Y 108, 109 (1990).

²⁶ See, e.g., Tun-Jen Chiang, *Fixing Patent Boundaries*, 108 MICH. L. REV. 523, 525 (2010) (“Because patent claims define infringement, they are generally regarded as the boundary of a patent, much as the boundaries of real property define trespass and the right of exclusion.”); Jeffrey A. Lefstin, *The Measure of the Doubt: Dissent, Indeterminacy, and Interpretation at the Federal Circuit*, 58 HASTINGS L.J. 1025, 1025 (2007) (“A patent’s claims define with words the limits of the inventor’s exclusive rights, just as physical boundaries may define the limits of real property rights.”); ALAN L. DURHAM, *PATENT LAW ESSENTIALS: A CONCISE GUIDE* 73 (2004) (“If patent infringement can be compared to trespassing, the claims serve as the boundary markers that define what is, or is not, an encroachment on the inventor’s exclusive territory.”); Scott G. Ulbrich, *Festo, Notice, and the Application of Prosecution History Estoppel to Means-Plus-Function Claim Limitations*, 28 WILLIAM & MARY L. REV. 1165, 1168 (2002) (“It is helpful to visualize the universe of all patentable subject matter as a large piece of real estate. Each patent is defined by the fence around smaller portions of the initial piece of land.”).

²⁷ Craig Allen Nard, *Certainty Fence Building, and the Useful Arts*, 74 IND. L. J. 759, 759 (1999).

²⁸ BESSEN & MEURER, *supra* note 2, at 46.

²⁹ Chiang, *supra* note 26, at 525, 530.

³⁰ *Id.* at 525.

³¹ See William R. Hubbard, *Efficient Definition and Communication of Patent Rights: The Importance of Ex Post Delineation*, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 327, 329 (2009) (explaining that “when determining boundaries, the analogies between patents and traditional notions of property rights become less useful and potentially misleading,” and that the many real-world differences between the two suggests that “the ‘metes and bounds’ analogy is a legal fiction that is, at best, unhelpful and, at worst, misleading”); Mark Lemley, *What’s Different About Intellectual Property?*, 83 Texas L. Rev. 1097 (2005) (arguing that “economic theory of real

In sum, commentators and judges employ a trespass standard to normatively evaluate, or more precisely to criticize, the operation of the patent system today. It is alleged that trespass doctrine is determinate and efficient because fences define clear physical boundaries for real estate. Thus, patents, or more precisely patent claims, should be as equally clear as fences and thus as equally determinate as trespass doctrine.³² Yet, everyone seems to agree that patents are vague, indeterminate, and inordinately expensive to obtain and to litigate. Patents are “probabilistic rights” of indefinite scope; as Professor Chiang laments, it is as if “the fence on your land was constantly moving in random directions. . . . Because patent claims are easily changed, they serve as poor boundaries, undermining the patent system for everyone.”³³ Thus, the conclusion seems inescapable: the patent system is fundamentally broken, and the need for reform is as obvious as the sky is blue.³⁴

III. Trespass as a Fallacy in Patent Law

The problem with the trespass standard in patent law is that it is fundamentally mistaken—it is conceptually invalid and empirically unverified. In converting a descriptive analogy into a normative standard, the advocates of the indeterminacy critique have created a fallacy—the trespass fallacy. Conceptually, this standard improperly compares the boundaries of a complete legal right (patent) with a single doctrine (trespass) that constitutes only one part of another legal right (real estate). Empirically, this standard asserts without any empirical proof whatsoever that boundary disputes of real estate are clear, determinate and efficient. Neither of these points represents an insurmountable problem for the indeterminacy critique;³⁵ it is possible for the critique to be reframed and for supporting studies to be done. But until these failings are addressed, the indeterminacy critique is based on a fallacy—it is not a sound argument—and thus it should not be used to justify judicial or legislative reforms of the patent system.

A. The Trespass Standard as a Logical Fallacy

Comparing how different types of property rights function in the real world is often an important and enlightening inquiry; in fact, it reflects the essence of the analogical reasoning at the core of legal analysis. In conceptual or policy analyses of legal rights, such comparisons can

property falls short when applied to the rather different world of intellectual property” in part because “the law of real property works [given] that both the physical and legal boundaries of real property are, in the main, clear” but that “[n]either ‘boundary’ is clear in intellectual property law”).

³² It is not just academic commentators who invoke the trespass/fence standard for evaluating patents. Judges on the Federal Circuit often invoke it, but positively. *See, e.g.*, *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 989 (Fed. Cir. 1995), *reversed*, (Mayer, J., concurring) (asserting that “a patent may be thought of as a form of deed which sets out the metes and bounds of the property the inventor owns for the term and puts the world on notice to avoid trespass or to enable one to purchase all or part of the property right it represents”).

³³ Chiang, *supra* note 26, at 530.

³⁴ *See, e.g.*, 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* 171 (2004) (“The primary objective of reform should be to reduce the uncertainty that now pervades many aspects of the patent system.”).

³⁵ The indeterminacy critique in patent law is not inherently senseless or necessarily false, as was the ultimate assessment by many of the “indeterminacy critique” of a liberal legal system propounded by the Critical Legal Studies movement more than twenty years ago.

reveal “the appropriate descriptive and normative inputs that go into a coherent and comprehensive account of a legal doctrine.”³⁶ Thus, for instance, these comparisons can reveal how different property rights, such as property rights in land and property rights in inventions, have specific built-in policy presumptions that guide their application in varying contexts, whether it is securing a domain of liberty in the free use of an asset³⁷ or reducing information costs in transactions in the efficiency-maximizing uses of assets.³⁸

But this comparison can only work if it is in fact valid, i.e., there is appropriate conceptual symmetry between the items of comparison. As Judge Kent humorously pointed out, one cannot equate as conceptual equivalents the terms, “Tuesday” and “Philadelphia,” at least if one wants to engage in rational, coherent discourse.³⁹ This type of identity proposition conflates two different concepts as allegedly sharing the exact same characteristics; as a matter of logic, it commits what philosophers call a “category mistake.”⁴⁰

In comparing legal rights for either descriptive or normative purposes, it is paramount to bear in mind that a legal right is not the same thing as a single doctrine that provides redress for a particular way this right is violated. Logically, a right or legal entitlement is an abstract concept that subsumes a variety of doctrines that secure this right in different contexts. In constitutional law, for instance, a “civil right” is a concept that encompasses a variety of different legal rights, such as the right to free speech, the right to freedom of religion, the right to a jury trial, the right to be secure against unreasonable search and seizure, and the right to due process, among many others. These more specific legal rights subsume various doctrines, such as the free speech doctrine defining and permitting time-manner-place regulations. Similarly, “property” is a broad concept that encompasses a variety of different types of legal rights that secure exclusive use in valued asset or resource, such as a fee simple in land, a right to spectrum, a right in oil, a riparian right, a right to corporate stock, a right of way, and a right to an invention, among many others. Each of these species of rights within the broader category has further specific doctrines that apply in the myriad circumstances in which these rights are utilized by the right-holders or violated by third-parties, such as the unauthorized diversion of water from a farmer’s stream.⁴¹ When comparing different types of rights or doctrines subsumed within a broader right, a proper comparison can be illuminating as to the fundamental policy presumptions that unite these rights or doctrines within the broader category, but mistaken conceptual comparisons merely obfuscates and ultimately frustrates this same analysis.⁴²

In comparing different property rights, it is important logically to recognize that the boundaries of legal title—whether in real estate or a patent—is not the same thing as trespass

³⁶ Mossoff, *supra* note 3, at 371.

³⁷ See Eric R. Claeys, *Private Law Theory and Corrective Justice in Trade Secrecy*, 4 J. TORT L., Article 2, 3 (2011) (“Trade secrecy sounds in property—if and to the extent that one agrees that ‘property’ consists conceptually of a right securing a normative interest in determining exclusively the use of an external asset.”).

³⁸ See generally Henry E. Smith, *Intellectual Property as Property: Delineating Entitlements in Information*, 116 YALE L.J. 1742 (2007).

³⁹ See *supra* note 14 (and accompanying text).

⁴⁰ See SIMON BLACKBURN, OXFORD DICTIONARY OF PHILOSOPHY 58 (1996) (“A category mistake arises when things or facts of one kind are presented as if they belonged to another.”).

⁴¹ See Mossoff, *supra* note 3, at 333-35 (discussing water rights).

⁴² See *id.* at 376-77.

doctrine. To claim as identical the boundaries of legal title and trespass is tantamount to claiming that the broader concept of fruit is identical with an orange rind. This type of identity proposition conflates two different concepts as allegedly sharing the exact same characteristics; in short, it commits a category mistake. Assuming that such comparisons can be valid and that they illuminate valid policy issues in property law, then logic requires that there be conceptual symmetry between the items of comparison. Thus, commentators and judges should compare a patent to its proper conceptual counterpart in real property—an *estate*.

Somehow the significance of the hoary truism that “patents are title deeds”⁴³ has been lost on modern patent commentators and courts. All law students learn in their first-year Property course that an *estate* is not the same thing as *land*.⁴⁴ It is a basic axiom in property law that the *physical boundaries* of a parcel of land are not the same thing as the *legal boundaries* of an estate, which is measured in its most basic sense in terms of temporal duration.⁴⁵ The largest estate, a fee simple absolute, is measured not just along the dimension of time, but since this estate secures exclusive rights of possession, use and disposition,⁴⁶ it is measured along functional and physical dimensions as well.⁴⁷ This is such a basic fact in the American property system that no one thinks twice about how fee simple owners carve up their estates precisely along these different dimensions, such as use (easements and restrictive covenants) and time (future interests). On the basis of defining patents as property, early nineteenth-century American courts secured to patent-owners the exact same conveyance rights in their “titles,” incorporating into patent law the common law property concepts of “assignments” and “licenses.”⁴⁸

To put the point bluntly, a fence does not define the boundaries of an estate, whether in fee simple or in any estate of lesser quantum. For property lawyers, this is anything but a surprising statement. Courts have long recognized that property rights can be violated without

⁴³ *Birdsall v. McDonald*, 3 F. Cas. 441, 444 (C.C.N.D. Ohio 1874) (No. 1,434).

⁴⁴ *See, e.g., Eaton v. Boston C. & M. R.R.*, 51 N.H. 504, 511 (1872) (“In a strict legal sense, land is not ‘property,’ but the subject of property.”); *Wynehamer v. People*, 13 N.Y. 378, 433 (1856) (Seldon, J.) (“Property is the right of any person to possess, use, enjoy and dispose of a thing. The term, although frequently applied to the thing itself, in strictness, means only the rights of the owner in relation to it.”).

⁴⁵ *See* SHELDON F. KURTZ, *MOYNIHAN’S INTRODUCTION TO THE LAW OF REAL PROPERTY* (4th ed. 2005) (“The theory of estates, a peculiarity of Anglo-American law, is based on the concept of ownership measured in terms of time.”); 1 F. POLLOCK & F. MAITLAND, *HISTORY OF ENGLISH LAW* 10 (2d ed. 1898) (“Proprietary rights in land are . . . projected upon the plane of time. The category of quantity, of duration, is applied to them.”).

⁴⁶ *See United States v. Gen. Motors Corp.*, 323 U.S. 373, 377-78 (1945) (explaining that “property” has a “vulgar and untechnical sense of the physical thing with respect to which the citizen exercises rights,” but that “in a more accurate sense” the concept of property denotes “the right to possess, use and dispose of it”); *Buchanan v. Warley*, 245 U.S. 60, 74 (1917) (“Property is more than the mere thing which a person owns. It is elementary that it includes the right to acquire, use, and dispose of it.”); *Eaton v. B. C. & M. R. R.*, 51 N.H. 504, 511 (1872) (“Property is the right of any person to possess, use, enjoy, and dispose of a thing.” (quoting *Wynehamer*, 13 N.Y. at 433)).

⁴⁷ *Tahoe-Sierra Preserv. Coun., Inc. v. Tahoe Reg. Planning Agency*, 535 U.S. 302, 318 (2002) (“Property interests may have many different dimensions. For example, the dimensions of a property interest may include a physical dimension (which describes the size and shape of the property in question), a functional dimension (which describes the extent to which an owner may use or dispose of the property in question), and a temporal dimension (which describes the duration of the property interest.)” (quoting *Tahoe-Sierra Preservation Coun., Inc. v. Tahoe Reg. Planning Agency*, 216 F.3d 764, 774 (9th Cir. 2000)).

⁴⁸ *See generally* Mossoff, *Commercializing Property Rights in Inventions*, *supra* note 17; Mossoff, *Exclusion and Exclusive Use in Patent Law*, *supra* note 3, at 349-60 (2009).

any breach of a fence or physical removal of an object from one's possession. As the New York Court of Appeals explained in 1856: "Property is the right of any person to possess, use, enjoy and dispose of a thing. . . . A man may be deprived of his property in a chattel, therefore, without its being seized or physically destroyed, or taken from his possession."⁴⁹

This is why first-year property courses spend little time studying common law trespass or conversion.⁵⁰ Instead, property professors spend almost the entirety of their courses studying the doctrines securing a property-owner's rights to possession, use and enjoyment, and the creation and use of estate interests along these dimensions. This includes the many doctrines that define and secure the rights of possession, use and disposition, such as adverse possession, finder and gift doctrines, possessory estates (e.g., leaseholds, life estates, fee simple defeasibles, joint tenancies, etc.), future interests (reversions, remainders and executory interests), easements arising by implication from licenses, prescriptive easements, restrictive covenants, and nuisance. All of these doctrines define the boundaries of an estate, both intensively and extensively, and only a few rely on physical breaches of fences to define when this estate has been invaded.

For example, many property lawsuits arise from disputed wills and other title-creating documents, such as a deed creating an easement. Accordingly, these disputes often focus on the meaning of words in the deed or conveyance instrument, a legal practice that many patent scholars would find eerily similar to the disputes over words in patent claims. And these real estate disputes are not resolved just by legal terms of art or non-technical words as used within the four corners of the conveyance instrument; rather, formal legal rules, such as rules of construction and substantive presumptions, play a fundamental and often determinative role in these court cases. As patent scholars know all too well, the same holds true for patent disputes, although contrary to many scholars' claims, this is not a modern artifact of the Federal Circuit's claim construction jurisprudence. In 1833, Justice Joseph Story, riding circuit, resolved one complicated patent assignment case by looking to "strong[] analogous cases" in the common law in which courts recognized the legitimacy of "the deeds" conveying land even if a "feoffment is stated without any averment of livery of seisin."⁵¹ Such language in patent decisions might send shivers down the spines of lawyers who remember all too well having to learn such archaic legal terminology in their first-year property courses, much of which continues to be in use today.

In fact, the hyper-technical and highly formalistic estate interests are very similar to patents in both content and form. Patent scholars might be surprised to learn that the term *incorporeal property* first arose at common law in cases involving future interests.⁵² The

⁴⁹ *Wynehamer v. People*, 13 N.Y. 378, 433 (1856).

⁵⁰ *See, e.g.*, JESSE DUKEMINIER ET AL., *PROPERTY* 69-80, 87-92 (6th ed. 2006); THOMAS W. MERRILL & HENRY SMITH, *PROPERTY: PRINCIPLES AND POLICIES* 1-6, 401-28 (1st ed. 2007).

⁵¹ *Dobson v. Campbell*, 7 F. Cas. 783, 785 (C.C.D. Me. 1833) (No. 3,945) (Story, Circuit Justice). In this case, Circuit Justice Story was required to assess whether the assignment "set[] up a title to the patent right" sufficient to support a claim for infringement by the plaintiff-assignee. *Id.* The sticking point was that the assignment was not recorded with the Secretary of State, as required by the 1793 Patent Act. *See* Patent Act of 1793, § 4, 1 Stat. 318, 322 (repealed 1836). Invoking the equity cases upholding real property interests transferred without the requisite legal formalities, Circuit Justice Story held that assignee had sufficient legal interest to sue for infringement. *Dobson*, 7 F. Cas. at 785.

⁵² *See* F. POLLOCK & R.S. WRIGHT, *AN ESSAY ON POSSESSION IN THE COMMON LAW* 54 (Elibron Classics 2005) (1888) ("With regard to incorporeal hereditaments, such as a reversion, a remainder, an advowson, the established theory of our authorities is that, although one may have seisin of them by receiving the rent and services,

similarities, though, are deeper than mere terminology. In terms of subject matter, disputes over future interests are disputes about the precise scope of the estate; the overlapping possessory estates and future interests create legal rights and duties between the respective owners of the estate, such as the restraints imposed on life tenants by remaindermen.⁵³ Such overlapping estate interests are similar to the overlapping patent interests covering a single product or process,⁵⁴ which often precipitates extensive litigation known today as a “patent thicket.”⁵⁵ In terms of legal doctrine, future interests are governed by hyper-technical and formalistic legal rules, and, as property lawyers are wont to point out, such rules refer only to the abstract legal right created in the conveyance instrument, not to the land.⁵⁶ Again, patent lawyers should feel right at home here, because the legal construction of hyper-technical patent claims is at the core of every infringement lawsuit. As the Federal Circuit puts the point, “the name of the game is the claim.”⁵⁷

The many cases involving disputes over estates and future interests dramatically reveal these points of similarity between the interests secured in real estate and patents. To take just one illustrative example: in Illinois in the mid-1970s, a dispute arose over who owned a future interest in a fee simple defeasible, as the interest was transferred under different circumstances and at different times to different parties.⁵⁸ Similar to the rules governing construction of all legal documents, including patents,⁵⁹ the court followed the uncontroversial proposition that the interpretation of deeds “is solely a matter of judicial interpretation of the words of the grant.”⁶⁰

As in all property disputes concerning estate interests, the parties in this case heavily disputed the meaning of the words used in the deed.⁶¹ Of course, the language was neither clear nor straightforward, as is often the case in these lawsuits. This explains why there is litigation, as there are colorable arguments on both sides of the dispute. Ultimately, the court concluded that

a close analysis of the wording of the original grant shows that . . . the use of the word ‘only’ immediately following the grant ‘for school purpose’ demonstrates that the Huttons wanted to give the land to the school district as long as it was

or presenting a clerk to the church, they are not the subjects of livery of seisin; they lie in grant, that is, they can be alienated only by deed.”).

⁵³ See *McIntyre v. Scarbrough*, 471 S.E.2d 199 (Ga. 1996) (holding that a life tenant forfeited his estate in favor of the remaindermen given the life tenant’s failure to pay real estate taxes).

⁵⁴ See Mossoff, *supra* note 3, at 330-36 (discussing blocking patents and how this corresponds to similar situations in tangible property rights).

⁵⁵ See generally Adam Mossoff, *The Rise and Fall of the First American Patent Thicket: The Sewing Machine War of the 1850s*, 53 ARIZONA L. REV. 165 (2011).

⁵⁶ See *Wood v. Leadbitter*, 153 Eng. Rep. 351 (Exchequer Div. 1845) (“That no incorporeal inheritance affecting land can either be created or transferred otherwise than by deed, is a proposition so well established, that it would be mere pedantry to cite authorities in its support. All such inheritances are said emphatically to lie in grant, and not in livery [of seisin] . . .”). Cf. *DUKEMINIER supra* note 50, at 182 (“The development of the fee simple estate is an example of that most striking phenomenon of English land law, the reification of abstractions, a process of thinking that still pervades our law. Instead of thinking of the land itself, the lawyer thinks of an *estate in land*, which is imagined as almost having a real existence apart from the land.”).

⁵⁷ *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998).

⁵⁸ See *Mahrenholz v. County Bd. of Sch. Trustees*, 417 N.E.2d 138 (Ill. App. Ct. 1981).

⁵⁹ See *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996).

⁶⁰ *Mahrenholz*, 417 N.E.2d at 141.

⁶¹ *Id.* at 144-46 (reviewing the parties’ competing arguments).

needed and no longer. . . . It suggests a limited grant, rather than a full grant subject to a condition, and thus, both theoretically and linguistically, gives rise to a fee simple determinable.⁶²

This type of formalistic, linguistic analysis of a deed is quite common in property law disputes, and state reporters are littered with opinions just like this one. Patent lawyers should find such arguments to be quite familiar to the rules and practices they face each day when courts or officials at the Patent & Trademark Office parse the words and grammatical structures of claims, applying definitions, as well as grammatical and legal rules, governing the relevant legal interests. In sum, the descriptive similarities between patents and future interests are palpable, which explains why nineteenth-century courts relied on real property cases, or at least analogized patent doctrines to real property doctrines, in creating parallel doctrines in patent law.

Beyond these similarities between patents and estate interests, there are other doctrines that define the boundaries of an estate without reference to either fences or the physical invasion that constitutes a trespass. For example, the owner of an easement can breach the larger estate in which the right of way exists without overstepping a single physical boundary line. All that is required is that the easement owner merely increases the *scope of use* of the easement—this is a breach of the estate boundaries along the functional dimension in terms of the scope of the use-right originally created in the easement.⁶³ In such cases, courts have no problem identifying the legal wrong as a “trespass” in the strictly legal sense of the term, referring to a legal violation of the boundaries of an estate interest.⁶⁴ But this is certainly not the sense of “trespass” employed by laypersons or patent lawyers, who think of only broken fences and physical invasions. Another example is the well-known action for nuisance—a substantial and unreasonable interference with another person’s *use and enjoyment* of land—which is a very common way that an estate can be violated without a breach of a fence or a physical invasion of the land.⁶⁵ One scholar explored recently how nuisance doctrine illuminates the same policy concerns about information costs in the structure of patent infringement doctrine,⁶⁶ but this comparison beyond the conventional contrast between patent infringement and trespass is the exception, not the rule.

Courts and commentators probably fail to see these many correlations and instead find the trespass fallacy so appealing because it reflects a symmetry between the exclusionary right in a patent and the exclusionary right in real estate. Today, patents and real estate are both deemed

⁶² *Id.* at 142.

⁶³ *See, e.g.,* *Brown v. Voss*, 715 P.2d 514 (Wash. 1986).

⁶⁴ *See, e.g.,* *Raven Red Ash Coal Co. v. Ball*, 39 S.E.2d 231, 233 (Va. 1946) (stating that “every use of an easement not necessarily included in the grant is a trespass to realty and renders the owner of the dominant tenement liable”); *Brown*, 715 P.2d at 518 (Dore, J., dissenting) (“Misuse of an easement is a trespass.”).

⁶⁵ *See* *Borland v. Sanders Lead Co.*, 369 So. 2d 523, 529 (Ala. 1979) (“If the intrusion interferences with the right to exclusive possession of property, the law of trespass applies. If the intrusion is to the interest in the use and enjoyment of property, the law of nuisance applies.”); *Exxon Corp. v. Yarema*, 69 Md. App. 124, 148 (1986) (“Nuisance is not contingent upon whether the defendant physically impinged on plaintiff’s property, but whether the defendant substantially and unreasonably interfered with plaintiff’s use and enjoyment of its property.”). *Cf.* Adam Mossoff, *Spam—Oy, What a Nuisance!*, 19 BERKELEY TECH. L. J. 625, 646-54 (2004) (discussing how the legal harm imposed by spam is properly characterized as a nuisance as opposed to a trespass).

⁶⁶ *See* Christopher M. Newman, *Patent Infringement as Nuisance*, 59 CATH. U. L. REV. 61 (2009).

to secure an owner's right to exclude others from the subject matter of the property right.⁶⁷ But the framing of patent infringement as trespass is only an analogy, as evidenced by early American courts using the trespass analogy long before American patents specifically defined the peripheral boundaries of the property right in formal "claims."⁶⁸ The characterization of patent infringement as "trespass" in Antebellum Era case law—when a patent described the "principle" of an invention⁶⁹—underscores how courts and commentators at that time used this term only as an analogy for framing the protection of patents as property rights (as opposed to personal privileges or franchise monopoly grants⁷⁰). Ironically, while criticizing the use of property metaphors as obfuscating policy issues in intellectual property law,⁷¹ patent scholars have converted the trespass analogy into the trespass fallacy and thus obfuscated what it means to define and secure a patent as a property right.

In sum, a comparison between patents and real estate should comprise all doctrines that define and secure the boundaries of these respective titles. This certainly includes trespass, but this single doctrine is not sufficient. As the Colorado Supreme Court aptly observed: "Property, in its broader and more appropriate sense, is not alone the chattel or the land itself, but the right to freely possess, use, and alienate the same."⁷² If the boundaries of the patent system are to be compared to that of real estate, then commentators and judges must include the doctrines that secure the temporal, geographic and functional dimensions and which together define the scope of a property right secured in an estate. The trespass fallacy must be discarded and the comparisons made anew based on the proper conceptual counterpart to patents—estates. Commentators and judges should stop talking about patent boundaries in terms of fences, as this analogy has led them astray, and instead they should be talking about *estate boundaries*.

B. Trespass as an Unverified Empirical Metric

If patent scholars and economists make a proper comparison between patent boundaries and estate boundaries, they must still *empirically* verify whether estate boundaries are as clear and determinate as they assume them to be. In all empirical studies, the omnipresent question is always: As compared to what?⁷³ The trespass fallacy is invalid not just because it reflects the

⁶⁷ See *Kaiser Aetna v. United States*, 444 U.S. 164, 176 (1979) (identifying the right to exclude as "one of the most essential sticks in the bundle of rights that are commonly characterized as property"); *Carl Schenck, A.G. v. Nortron Corp.*, 713 F.2d 782, 786 n.3 (Fed. Cir. 1983) ("The patent right is but the right to exclude others, the very definition of 'property.'"); see also Mossoff, *supra* note 3, at 327-30 & 360-64 (explaining how real property and patents are both defined in modern property theory as essentially securing a right to exclude).

⁶⁸ See *Markman*, 517 U.S. at 379 (discussing how claims did not originally exist in American patent law).

⁶⁹ See, e.g., *Blanchard v. Beers*, 3 F. Cas. 617, 617-18 (C.C.D. Conn. 1852) (No. 1, 506) (instructing a jury that "in his specification, the patentee explains *the principle* embodied in his machine, in other words, the novel characteristics or inventive elements of the machine") (emphasis added).

⁷⁰ See generally Mossoff, *Reevaluating the Patent Privilege*, *supra* note 17 (identifying how American courts, legislators and commentators historically justified patents as property rights within natural rights theory).

⁷¹ See, e.g., Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031, 1071 (2005) ("My worry is that the rhetoric of property has a clear meaning in the minds of courts, lawyers, and commentators as 'things that are owned by persons' and that fixed meaning will make it all too tempting to fall into the trap of treating intellectual property as an absolute right to exclude.").

⁷² *City of Denver v. Bayer*, 2 P. 6, 6-7 (Colo. 1883).

⁷³ See David L. Schwartz & Jay P. Kesan, *Analyzing the Role of Non-Practicing Entities in the Patent System* (2012), at 7-9 available at <http://ssrn.com/abstract=2117421> (critiquing a study by Bessen and Meurer on the costs of litigation by non-practicing entities (NPE) for failing properly to establish that NPE litigation costs are

logical fallacy of a category mistake, but also because it reflects a metric for empirically assessing the operation of the patent system that is completely unsubstantiated and unverified. In short, there are no empirical studies of how trespass functions in real-world litigation, and there certainly are no empirical studies of the proper metric that scholars should be using in their comparative statics of the patent system—estate boundaries.

Surprisingly, patent scholars have been engaging in substantial empirical studies of the patent system in recent years, but they have been merely asserting without any proof that real estate boundaries are stable, determinate and efficient. The most extensive empirical study of the modern patent system to date is by Professors Bessen and Meurer, as presented in their famous book, *Patent Failure*. They infer the indeterminacy critique from their study and thus call for wide-ranging reforms of the patent system. As previously noted, they invoke the trespass fallacy in this book,⁷⁴ but what is perhaps most surprising is that they do so on both conceptual and empirical grounds. Although they carefully collected extensive data on the issuance and litigation of patents, they offer not a single formal empirical study to verify their assertion that “[r]eal property law gives landowners a clear view of property boundaries,” and thus one “rarely hear[s] about lawsuits caused because someone inadvertently built a structure on, or made some other investment within the boundaries of, another’s property.”⁷⁵ In support of this *empirical* claim about how real property boundaries function at all times and in every common law jurisdiction in the United States, they offer the following statement in a single footnote: “Over the past three years there have been only four lawsuits in California concerning good-faith improvement of land.”⁷⁶ This is it. There are no statistical or other empirical studies cited to support this claim, either limited to California or to any other jurisdiction for that matter. This lack of concern for providing any proper evidence in support of the invocation of the trespass standard is not unusual. Other patent scholars often assert similarly unsubstantiated claims that real property boundaries function clearly and efficiently in the real world.⁷⁷

Although there are no wide-scale empirical studies of trespass doctrine, the few empirical studies on real estate boundaries and casual surveys of anecdotal evidence suggest that the trespass picture is far more complicated and more litigious than patent scholars assume it to be.⁷⁸

“statistically different from some other number” because they “unrealistic[ally] assume that the costs should be zero”).

⁷⁴ See *supra* note 28 and accompanying text.

⁷⁵ BESSEN & MEURER, *supra* note 2, at 51.

⁷⁶ *Id.* at 266 n.8.

⁷⁷ See, e.g., Lemley, *supra* note 31, at 1100 (“One of the reasons we are reasonably confident that the law of real property works is that both the physical and legal boundaries of real property are, in the main, clear.”); Chiang, *supra* note 26 at 530 (“Property rights generally have a degree of stability to facilitate investment by their owners and others.”).

⁷⁸ See Gary D. Libcap & Dean Lueck, *The Demarcation of Land and the Role of Coordinating Institutions* (NBER Working Paper No. w14942), available at <http://ssrn.com/abstract=1401787> (identifying differing economic effects between rectangular system and metes and bounds for demarcating boundaries of real property); see also Brandon Shulleeta, *Crozet Square Dispute Still Unresolved*, THE DAILY PROGRESS (June 30, 2010) (“Crozet business owners had been struck with panic—witnessing a railroad company claim ownership of their shopping center parking lot and erecting a fence—and the property dispute remains unresolved now a month later.”); James Eli Shiffer, *Drawing the Line in Land Squabble*, STAR TRIBUNE 3B (June 13, 2010) (reporting ongoing and highly emotional boundary dispute in Minnesota); Molly Moorhead, *Feud Over Fence in Road May Go To Trial*, ST. PETERSBURG TIMES (Feb. 10, 2010) (reporting ongoing boundary dispute in Florida); *Superior Man Arrested for Trespassing on His Own Land*, DULUTH NEWS TRIBUNE (Dec. 4, 2009) (reporting how a landowner was arrested for

But even if scholars eventually produce empirical studies on trespass lawsuits throughout the United States, there still remains the conceptual fallacy in using trespass doctrine as the sole metric in evaluating the patent system. Thus, for the indeterminacy critique to have any traction beyond appeals to our intuitions that real property works more or less efficiently, the empirical studies have to assess how *estate boundaries* are defined and adjudicated in real-world disputes.

This requires data collection and modeling of how estate boundaries work along two different axes of measurement. Before I identify these two axes of measurement, it bears noting that a full empirical study is beyond the scope of this Essay; in fact, to attempt to present a complete study of estate boundary disputes in this section would result in my committing the same conceptual and empirical problems identified in this Essay. Thus, what follows is only a summary of the various factors that such a study would have to account for, with some citations to show that such legal and factual disputes over real estate boundaries are both common and quite significant today.

First, data on all of the relevant doctrines that comprise estate boundaries must be collected and tested to determine if it confirms the asserted hypothesis that estate boundaries are determinate and efficient vis-à-vis indeterminate and inefficient patent boundaries. For this claim to be sufficiently robust, the data must capture all of the ways that estate boundaries are defined and disputed, including disputes concerning trespass,⁷⁹ adverse possession,⁸⁰ easements,⁸¹ restrictive covenants,⁸² and nuisance,⁸³ among other doctrines identified in the previous section.

criminal trespass for interfering with a public utility easement on his land); Paul Sullivan, *Somebody's Watching . . . And Ready to Sue*, N.Y. TIMES at B6 (Sep. 4, 2009) (discussing hundreds of thousands of dollars being spent in Connecticut in a boundary dispute involving a stone wall); Jerry Seper, *16 Illegals Sue Arizona Rancher*, THE WASH. TIMES (Feb. 9, 2009) (reporting on how a rancher was sued for attempting to stop trespassers on his land in Arizona); Tami Abdolla & Maria L. LaGanga, *Building a Fence is His Big Offense*, L.A. TIMES (Aug. 29, 2007) (reporting that a homeowner was sentenced to jail for six months for building a fence in violation of municipal codes in California).

⁷⁹ See, e.g., *Action Marine, Inc v. Continental Corbon, Inc.*, 481 F.3d 1302 (11th Cir. 2007) (holding defendant liable in trespass action for almost \$19 million in damages plus attorneys' fees in excess of \$1 million).

⁸⁰ See, e.g., *Sag Harbor Village to Bid on MTA Parcel*, THE SAG HARBOR EXPRESS (July 16, 2010), available at <http://sagharboronline.com/sagharborexpress/page-1/sag-harbor-village-to-bid-on-mta-parcel-8542> (last visited May 11, 2012) (discussing ongoing adverse possession dispute in property concurrently being auctioned by local authorities).

⁸¹ See, e.g., *Sampair v. Village of Birchwood*, 784 N.W.2d 65 (Minn. 2010) (resolving dispute over beach access between landowners and easement owners); Jenna Russell, *Wrangling Over Ancient Ways*, THE BOSTON GLOBE (Feb. 8, 2010), available at http://www.boston.com/news/local/massachusetts/articles/2010/02/08/right_to_access_to_ancient_marthas_vineyard_pathway_settled_in_court/ (last visited Feb. 9, 2010) (discussing long-running disputes over easements on Martha's Vineyard island).

⁸² See, e.g., Jordan Schrader, *Clotheslines a Hang-Up for Some Communities*, USA TODAY (Sep. 8, 2009), available at http://www.usatoday.com/news/nation/2009-09-07-clotheslines_N.htm (last visited Nov. 4, 2010).

⁸³ See, e.g., *Powell v. Tosh*, 2012 WL 692049 (W.D. Ky.) (certifying class action in nuisance lawsuit against hog farm); *Lowery v. Alabama Power Co.*, 483 F.3d 1184 (11th Cir. 2007) (remanding to state court a nuisance claim involving 409 plaintiffs and more than \$5 million in claimed damages); Justin Jouvenal, *Fairfax County Church Takes Action Against Topgolf Driving Range for Wayward Golf Balls*, WASH. POST (Nov. 5, 2011) (reporting how a church is formally accusing a local golf range is a public nuisance); Teri Karush Rogers, *The Big Mistake*, N.Y. TIMES, at RE1 (Dec. 9, 2009) (reporting on nuisance-style interferences between neighboring tenants in skyscrapers); *"Neighbour from Hell" Madonna Accused of Turning her £4M NYC Home into Rehearsal Space*, DAILY MAIL (Oct. 20, 2009) (same).

Most important, it would have to include the innumerable interpretative disputes over the wills, deeds and conveyance instruments that define these boundaries along the multi-dimensions of an estate. As property attorneys know, many property disputes comprise linguistic fights over the legal definitions of estates and related legal terms of art in property law—similar to the linguistic fights in patent law over the meaning of claim terms.⁸⁴

The ubiquitous terminological disputes concerning the scope of estate boundaries are a stark reminder that the widely-accepted assertion about the allegedly unparalleled debacle in claim interpretation jurisprudence is untested and unverified. Perhaps this complaint represents merely a pinning for an idealized certainty in language that is just not possible in any legal document that creates legal entitlements, whether a title deed, a statute or a patent.⁸⁵ Perhaps not. To this day, the vitally important question remains unanswered: Do patents secure boundaries in inventions with the same certainty as title instruments secure boundaries in real estate? It is time to properly test whether there is unacceptable indeterminacy or not in the functioning of patents as property rights

Second, a proper empirical study of estate boundaries must also guard against the selection effects in focusing solely on court cases arising from formal complaints asserting property-based causes of action.⁸⁶ In addition to the many boundary disputes that are resolved at the stage in which attorneys exchange letters or even before a trial occurs, many property disputes are channeled today through various dispute-resolution mechanisms outside of the classic lawsuit filed with the clerk in the local courthouse. This includes informal mechanisms, such as the operation of social norms that resolve boundary disputes without formal court action,⁸⁷ and a variety of formal mechanisms within the modern administrative state, such as zoning, environmental regulations, and other statutes and regulations that establish non-judicial adjudicative processes to resolve disputes.⁸⁸

⁸⁴ See, e.g., *Burdette v. Brush Mountain Estates, LLC*, 682 S.E.2d 549 (Va. 2009) (holding that a conveyance deed containing the express words “private easement . . . is hereby conveyed” did not create an easement given that the plat did not specify with precision the burden imposed by the easement and the plat showed the easement covering land not included in the original survey of the parcel); *Bailey v. Town of Saltville*, 691 S.E.2d 491 (Va. 2010) (resolving dispute over whether the language in a deed granted an easement or a fee simple). See also Roger Vincent, *Downtown L.A. Building Set to Go from Drug Den to Luxury Inn*, L.A. TIMES (Feb. 23, 2012) (reporting on how development of a valuable parcel was held up for many years given “difficulty figuring out who held its title as competing parties claimed control”); *Confused Land Records Lead to Dueling Deeds*, ROCKBRIDGE ADVOCATE, at 1, 6-10 (March 2008) (on file with author).

⁸⁵ Cf. *Georgia-Pacific Corp. v. United States Plywood Corp.*, 258 F.2d 124, 136 (2d Cir. 1958) (“[I]f the language is as precise as the subject matter permits, the courts can demand no more.”).

⁸⁶ In addition to the lack of any formal support for their empirical claim about the alleged clarity of real estate boundaries, Bessen and Meurer’s informal review of trespass court cases in California between 2005 and 2008 suffers from obvious self-selection effects that they do not control for. This is a similar problem to the self-selection effects in their 2012 study of non-practicing entity litigation. See Schwartz & Kesan, *supra* note 73, at 1 & 4-6.

⁸⁷ See, e.g., Drew Grant, *D’Amico Coffee Loses Battle over Carroll Gardens’ (Coffee) Grounds*, THE NEW YORK OBSERVER, May 28, 2012, available at <http://observer.com/2012/05/damico-coffee-loses-battle-over-carroll-gardens-grounds/> (describing how local residents, upset by the smell, shut down a local coffee shop’s activities by repeatedly making false reports to the fire department about it). See also ROBERT C. ELLICKSON, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES* (1991); JAMES M. ACHESON, *THE LOBSTER GANGS OF MAINE* 48-49, 73-76, 142-44 (1988).

⁸⁸ See, e.g., Matt Miller, *Food Truck Wars*, THE DAILY CALLER (Apr. 27, 2011), available at <http://dailycaller.com/2011/04/27/food-truck-wars/> (reporting on restaurant-owners around the country using zoning

To date, no such formal study by patent or property scholars has been done along either of these two axes of measurement. Thus, commentators advancing the trespass fallacy have been engaging in comparative statics in which one side has been carefully studied with extensive data collection (patent law) and the other side is almost completely barren of any facts (property law). In these studies, commentators have been merely restating the *idealized theory* of how the right to exclude functions within trespass doctrine, as it is formally conceptualized within the economic analysis of property law.⁸⁹ Commentators invoking the trespass fallacy simply assume that this classic “property rule” doctrine works clearly and efficiently.⁹⁰ In economic terms, the *nirvana fallacy* is omnipresent in much empirical scholarship on the modern patent system.

Aside from the conceptual problems inherent in relying on trespass doctrine to evaluate patents, an *idealize theory* about one legal doctrine (trespass) is not a commensurate standard for doing *comparative empirical studies* of another legal right (patents). As Professors Bessen and Meurer rightly state: “The problem with mistaking abstract conceptions of property for the real thing is that this substitutes rhetoric for reasoned policy.”⁹¹ Unfortunately, their study is rife with the trespass fallacy, and so they are not following their own advice. If the empirical studies of the patent system are to have a proper explanatory function, whether in making the indeterminacy critique or in asserting any other claim about patents, then they have to answer the vital question: As compared to what? As of yet, this question is unanswered because the proper estate boundary standard remains empirically unverified. Of course, it is easy to solve this problem. To borrow Professors Bessen and Meurer’s own mantra: “The antidote is empirical evidence.”⁹²

IV. Conclusion

The conventional wisdom is that the patent system is broken and requires immediate action to reform it before irreparable harm is done to both innovation and economic growth in the country. The problem, according to many, is that patents today are infected with vagueness and indeterminacy. As the reform advocates repeatedly put the point: “The primary objective of reform should be to reduce the uncertainty that now pervades many aspects of the patent system.”⁹³ The widespread calls for reform by academics, policy activists, lawyers and commercial firms has prompted the Supreme Court, the Congress and the Patent & Trademark

laws to eliminate competition from food trucks); Paul Muschick, *Zoning Feud Nears End in Allen Twp.*, THE MORNING CALL (Jan. 14, 2010), available at http://articles.mcall.com/2010-01-14/news/all-online19ndh-a-a.7146058jan14_1_zoning-feud-township-manager-and-zoning-zoning-officer (reporting on a “long-running zoning feud” in Allentown, Pennsylvania); Tom Ramstack, *Church Sues District Over Landmark*, WASH. TIMES (Aug. 8, 2008) (reporting on how a local church is challenging its legal designation as a historical landmark); Tami Abdolla & Maria L. LaGanga, *Building a Fence is His Big Offense*, L.A. TIMES (Aug. 29, 2007) (reporting that a homeowner was sentenced to jail for six months for building a fence in violation of municipal building codes).

⁸⁹ See, e.g., Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. (Papers & Proc.) 347, 356 (1967) (observing that “private ownership of land will internalize many of the external costs associated with communal ownership, for now an owner, by virtue of his power to exclude others, . . . [has] incentives to utilize resources more efficiently”) (emphasis added).

⁹⁰ See *supra* notes 28-31, 75-77, and accompanying text.

⁹¹ BESSEN & MEURER, *supra* note 2, at 257.

⁹² *Id.*

⁹³ JAFFE & LERNER, *supra* note 2, at 171.

Office to spring into action in recent years, attempting to address the perceived breakdown in the patent system with a plethora of fixes both doctrinal and institutional.

The problem is that the charges of rampant indeterminacy in the patent system are predicated on a fallacy—an improper and unverified comparison of the patent system with trespass doctrine. Logically, this commits a category mistake, as it assumes that the boundaries of title—whether a property right in an invention or in land—are defined solely by a single doctrine of trespass subsumed within this property right. As property lawyers well know, trespass is only one of many doctrines, including easements, restrictive covenants, nuisance and many others, that secure estate boundaries along their geographic, temporal and functional dimensions. Empirically, there are no formal empirical studies of how trespass doctrine functions in litigation, nor are there any studies of the proper comparative concept of how estate boundaries function in litigation. Commentators are committing the *nirvana fallacy* in their comparative statics—comparing actual empirics on the patent system with an idealized theory of how trespass should be functioning in the real world. In sum, the indeterminacy critique is the product of a fallacy in patent law today—the trespass fallacy.

If one believes that there is value in the policy insights obtained from comparisons between different types of property rights, then the trespass fallacy should be discarded in favor of a proper descriptive and empirical account of estate boundaries. As the legal realists reminded us so long ago, normative assessments of the law are “empty without objective description of the causes and consequences of legal decisions.”⁹⁴ As of now, there is no objective description of real estate to support the comparative claim in the indeterminacy critique that patents are failing as property rights. Until firm factual grounding for this normative critique is first established, commentators, legislators and courts might want to pause before continuing to make fundamental structural changes to the American patent system.

⁹⁴ Felix S. Cohen, *Transcendental Nonsense and the Functional Approach*, 35 COLUM. L. REV. 809, 849 (1935).