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EXCLUSION AND EXCLUSIVE USE IN PATENT LAW

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I. Introduction

In the past several years, the Supreme Court has upended patent doctrine to a degree not seen since the mid-nineteenth century. The

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Court handed down opinions in six cases,¹ and even Justice Stephen Breyer's lengthy dissent from the dismissal of a seventh case, *Laboratory Corp. of America v. Metabolite Laboraties*,² has been followed closely by the bench and bar.³ Not since 1853, when the Court decided eight patent cases,⁴ has the Court engaged so intensely with the working details of the American patent system. Yet, throughout this tumult, the descriptive foundation of the patent system has remained unscathed. The status of patents is undisputed: patents are property.⁵

For many lawyers and scholars outside of patent law, this may sound surprising, because legal rights derived from constitutional provisions are typically the subject of substantial disagreement on both descriptive and normative grounds. Not so for constitutionally-based patents, which Congress, courts, treatise authors, and scholars agree are a unique form of property that secure only a negative right to exclude others from an invention. The Supreme Court thus agrees with the Court of Appeals for the Federal Circuit that patents are property insofar as patents secure a right to exclude, despite the Court's recent

^{1.} See Quanta Computer, Inc. v. LG Elecs., Inc., 128 S. Ct. 2109 (2008); KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727 (2007); Microsoft Corp. v. AT&T Corp., 127 S. Ct. 1746 (2007); MedImmune, Inc. v. Genentech, Inc., 127 S. Ct. 764 (2007); eBay Inc. v. MercExchange, L.L.C., 126 S. Ct. 1837 (2006); Ill. Tool Works, Inc. v. Indep. Ink, Inc., 126 S. Ct. 1281 (2006).

^{2. 126} S. Ct. 2921, 2922–29 (2006) (Breyer, J., dissenting).

^{3.} See In re Bilski, 545 F.3d 943, 965 n.27 (Fed. Cir. 2008); id. at 1013–14 (Rader, J., dissenting); In re Nuijten, 500 F.3d 1346, 1364 n.5 (Fed. Cir. 2007) (Linn, J., concurring in part and dissenting in part); see also Prometheus Labs., Inc. v. Mayo Collaborative Servs., No. 04cv1200 JAH (RBB), 2008 WL 878910, at *7 n.6 (S.D. Cal. Mar. 28, 2008) (observing that "while Lab. Corp. does not hold precedential value, its reasoning is persuasive and relevant").

^{4.} Seymour v. McCormick, 57 U.S. (16 How.) 480 (1853); Corning v. Troy Iron & Nail Factory, 56 U.S. (15 How.) 451 (1853); Livingston v. Woodworth, 56 U.S. (15 How.) 546 (1853); Smith v. Ely, 56 U.S. (15 How.) 137 (1853); Brooks v. Fiske, 56 U.S. (15 How.) 212 (1853); Winans v. Denmead, 56 U.S. (15 How.) 330 (1853); O'Reilly v. Morse, 56 U.S. (15 How.) 62 (1853); Corning v. Burden, 56 U.S. (15 How.) 252 (1853).

^{5.} See, e.g., 35 U.S.C. § 261 (2006) ("[P]atents shall have the attributes of personal property."); Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 730 (2002) ("The [patent] monopoly is a property right..."); Fla. Prepaid Postsecondary Educ. Expense Bd. v. Coll. Sav. Bank, 527 U.S. 627, 642 (1999) ("Patents... have long been considered a species of property.").

^{6.} See, e.g., District of Columbia v. Heller, 128 S. Ct. 2783 (2008) (second amendment); Boumediene v. Bush, 128 S. Ct. 2229 (2008) (habeas corpus); Kelo v. City of New London, 545 U.S. 469 (2005) (takings clause); Camps Newfound/Owatanna, Inc. v. Town of Harrison, 520 U.S. 564 (1997) (dormant commerce clause); Lamb's Chapel v. Center Moriches Union Free Sch. Dist., 508 U.S. 384 (1993) (establishment clause).

^{7.} See U.S. CONST. art. I, § 8, cl. 8 ("The Congress shall have Power... To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.").

^{8.} See infra Part II.

^{9.} Compare Dawson Chem. Co. v. Rohm & Haas Co., 448 U.S. 176, 215 (1980) (observing that it is "the long-settled view that the essence of a patent grant is the right to exclude others from profiting by the patented invention") with 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."").

string of reversals of the Federal Circuit. Prominent patent scholars, such as Professors Mark Lemley and Scott Kieff, who take strongly opposing positions on patent policy¹⁰ (and repeatedly file competing amicus briefs)¹¹ agree that patents are property insofar as they secure a right to exclude.¹² The conventional wisdom is that the definition of patents as property is settled — patents secure only a right to exclude — and thus disagreement occurs over only the messy normative details of how best to deploy this exclusive right in patent doctrine.¹³

This uniformity of opinion within the patent law community has perhaps obscured the fact that this "exclusion concept of patents" is fundamentally incorrect. Contrary to the claims of courts, lawyers, and scholars, defining a property right in terms of the right to exclude is not distinctive to patent law. It derives from a conception of property in land that was first promulgated within American law by the legal realists in the early twentieth century. ¹⁴ The legal realists revolutionized American property theory by redefining real property as comprising a right to exclude, ¹⁵ which soon became the standard definition of legal entitlements in land. ¹⁶ In reflexively adopting the legal realists' exclusion concept of property in land, patent scholars and lawyers have similarly redefined the conceptual foundations of American patent law. ¹⁷

^{10.} Compare F. Scott Kieff, Property Rights and Property Rules for Commercializing Inventions, 85 MINN. L. REV. 697 (2001) (advancing commercialization theory of patent law) with Mark A. Lemley, Ex Ante Versus Ex Post Justifications for Intellectual Property, 71 U. CHI. L. REV. 129 (2004) (criticizing commercialization theory in favor of reward theory).

^{11.} See, e.g., Brief of Various Law & Economics Professors as Amici Curiae in Support of Respondent, eBay, Inc. v. MercExchange, L.L.C., 126 S. Ct. 1837 (2006) (No. 05-130), 2006 WL 639164; Brief Amici Curiae of 52 Intellectual Property Professors in Support of Petitioners, eBay, 126 S. Ct. 1837 (No. 05-130), 2006 WL 1785363.

^{12.} Compare Mark A. Lemley, Reconceiving Patents in the Age of Venture Capital, 4 J. SMALL & EMERGING BUS. L. 137, 139 (2000) (observing that "the patent law model we have is quite simple: the government issues you a patent; the patent gives you the right to exclude") with F. Scott Kieff & Troy A. Paredes, The Basics Matter: At the Periphery of Intellectual Property, 73 GEO. WASH. L. REV. 174, 198 (2004) (claiming that "patents only give a right to exclude").

^{13.} Cf. Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1597–99 (2003) (recognizing that "courts and commentators widely agree that the basic purpose of patent law is utilitarian," but that this "[a]greement on basic utilitarian goals has not, however, translated into agreement on how to implement them").

^{14.} See infra Part III.B.

^{15.} See Adam Mossoff, What is Property? Putting the Pieces Back Together, 45 ARIZ. L. REV. 371, 375 (2003) (identifying this as the "exclusion theory of property").

^{16.} See infra note 199 and accompanying text.

^{17.} See, e.g., Mark A. Lemley & Philip J. Weiser, Should Property or Liability Rules Govern Information?, 85 Tex. L. Rev. 783, 783 (2007) (predicating their normative economic analysis on the assumption that the "foundational notion of property law is that 'the right to exclude' is the essence of a true property right"); Pauline Newman, Legal and Economic Theory of Patent Law (July 21, 1994), in DONALD S. CHISUM ET AL., PRINCIPLES OF PATENT LAW 76, 77 (2d ed. 2001) ("The essence of the concept of property is the right to exclude others from its possession and enjoyment."); see also Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1548 (Fed. Cir. 1983) (recognizing that "a patent is a form of property

This brings into sharp focus the importance of the conceptual theories that underlie this area of the law. Much of modern American patent law comprises doctrines first created by courts in the nineteenth century, 18 an era in which patents were defined as securing exclusive rights of possession, use, and disposition. 19 This definition informed the patent doctrines created by the courts at that time, ²⁰ and the continued enforcement of these hoary doctrines by modern courts raises tensions within modern patent jurisprudence that are often concealed by the conventional wisdom represented in the exclusion concept of patents. In repeatedly reversing the Federal Circuit, for instance, the Supreme Court consistently professes fealty to the conceptual features of "longstanding doctrine" in patent law. 21 As Chief Justice John Roberts explained in the Court's recent decision in eBay Inc. v. MercExchange, L.L.C., "historical practice" sets the baseline for construing patent doctrine, because "[w]hen it comes to discerning and applying those standards, in this area as others, 'a page of history is worth a volume of logic.",22

Within these opinions, though, the difference between the modern exclusion concept of patents and the more substantive conceptual content of nineteenth-century patent doctrines has gone unacknowledged. The Court is not alone in this regard. Patent scholars similarly assume that foundational conceptual issues in patent law are resolved, and thus they focus exclusively on the normative analysis of patents²³ But

right, and the right to exclude recognized in a patent is but the essence of the concept of property").

^{18.} Hotchkiss v. Greenwood, 52 U.S. (11 How.) 248 (1850) (creating nonobviousness requirement in patent law in construing the term "invention" in the patent statutes). Patent lawyers are familiar with the fact that almost all black-letter patent doctrine consists of judicial glosses on the patent statutes. *See, e.g., In re* Wands, 858 F.2d 731, 737 (Fed. Cir. 1988) (recognizing that "[t]he term 'undue experimentation' does not appear in the [patent] statute, but it is well established" as the governing enablement test).

^{19.} See infra notes 79-80 and accompanying text.

^{20.} See infra Part III.A.

^{21.} Quanta Computer, Inc. v. LG Elecs., Inc., 128 S. Ct. 2109, 2115 (2008) (citing nine-teenth-century case law); see also KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1734 (2007) (recognizing that modern nonobviousness doctrine follows "the logic of the earlier decision in *Hotchkiss v. Greenwood* and its progeny" (citation omitted)); Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 738 (2002) (affirming the doctrine of prosecution history estoppel in patent law given, in part, how courts construed this equitable defense in the nineteenth century); Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 26 n.3 (1997) (maintaining that nineteenth-century court decisions creating the doctrine of equivalents are controlling today).

^{22.} eBay Inc. v. MercExchange, L.L.C., 126 S. Ct. 1837, 1841–42 (2006) (Roberts, C.J., concurring) (quoting N.Y. Trust Co. v. Eisner, 256 U.S. 345, 349 (1921)).

^{23.} See, e.g., Burk & Lemley, supra note 13, at 1596–99 (noting how there remains "[f]undamental disagreement" between various normative theories of patents); Kieff, supra note 10, at 717 ("The creation of a property right to exclude others from partaking in the benefits of commercialization efforts is consistent with the basic thesis of Demsetz that property rights emerge when it becomes economically efficient to internalize benefits and costs."); Edmund W. Kitch, The Nature and Function of the Patent System, 20 J.L. & ECON. 265, 265 (1977) (proposing as a matter of normative economic analysis to "reintegrate[] the

conceptual issues remain very much in play, influencing doctrine and policy analysis implicitly within the nineteenth-century patent doctrines that are the focus of many of the recent cases decided by the Supreme Court. The tumult in patent law has been caused by both normative and conceptual conflicts within modern patent jurisprudence.

As such, this Article proposes a modest challenge to patent scholars and jurists to reconsider both the substance and significance of the conceptual analysis of patents as property. As Judge Timothy Dyk recently reminded his fellow jurists on the Federal Circuit: "Patent law is not an island separated from the main body of American jurisprudence." ²⁴ In identifying the source of the exclusion concept of patents in the legal realists' tangible property theory, as well as highlighting the deficiencies of this modern conceptual theory in explaining patent law practices and doctrines, this Article seeks to confirm Judge Dyk's insight with respect to the role of conceptual property theory in patent law.

Although modern legal disputes are not all reducible to conceptual confusions or accidents in the intellectual history of legal doctrine, it would be hasty to dismiss such analyses as irrelevant to the evolution of modern patent doctrine. The conceptual content of a legal entitlement guides courts in shaping the legal rules that further delineate or extend the protection of the law. When this legal entitlement does not necessarily account for the actions a property owner may undertake, the result may be doctrinal disarray. This is especially true when that legal entitlement is now defined differently from when its doctrines were first created by either Congress or courts. As Wesley Hohfeld taught the legal profession almost a century ago, the conceptual analysis of legal entitlements is important because it can "aid in the understanding and in the solution of practical, every-day problems of the law."²⁵ Patents are no exception, and the recent tumult within patent doctrine suggests that it is time to reconsider whether the conceptual status of patents as property has been an unobserved factor at work within this doctrinal turmoil.

In three parts, this Article will advance its thesis that the exclusion concept of patents does not adequately define patents as a unique species of property and that this is a long-unacknowledged Achilles

patent institution with the general theory of property rights"); Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 Tex. L. Rev. 1031, 1033 (2005) ("The rhetoric and economic theory of *real* property are increasingly dominating the discourse and conclusions of the very different world of *intellectual* property."); Craig Allen Nard, *Certainty, Fence Building, and the Useful Arts*, 74 IND. L.J. 759, 766 (1999) (applying normative economic analysis to explain why patents are enforced as "property rule entitlement[s]").

^{24.} Knorr-Bremse Systeme Fuer Nutzfahrzeuge GmbH v. Dana Corp., 383 F.3d 1337, 1351 (Fed. Cir. 2004) (en banc) (Dyk, J., concurring in part and dissenting in part).

^{25.} Wesley Newcomb Hohfeld, Some Fundamental Legal Conceptions as Applied in Judicial Reasoning, 23 YALE L.J. 16, 20 (1913).

heel in modern patent jurisprudence. Part II will explain the exclusion concept of patents and evaluate its supporting doctrinal and statutory arguments. In so doing, it will reveal how this conception of patents as property is predicated on mistaken doctrinal distinctions between real property and patented inventions, and how the patent statutes are beset with internal conflicts concerning the nature of patents as property. Given the absence of a compelling doctrinal or statutory account for the exclusion concept of patents, Part III will then address how this descriptive account of patents came about by examining the intellectual history of American property theory. It will explain how the exclusion concept of patents arose as a result of the legal realists' radical reconceptualization of property in land at the turn of the twentieth century. Significantly, it will discuss how the legal realists used patents in arguing for an exclusion concept of property in land, and it will show how this revolution in property theory in the early twentieth century led patent lawyers to later mistakenly accept the legal realists' characterization of property as securing only the right to exclude. Finally, Part IV will conclude with some thoughts as to why conceptual property theory matters in patent law, such as explaining how the exclusion conception of patents may be contributing to the proliferating charges and counter-charges of formalism in the patent jurisprudence of both the Federal Circuit and the Supreme Court.

II. THE MODERN CONCEPTION OF PATENTS AS PROPERTY

Before assessing the intellectual origins of the exclusion concept of patents and its influence on modern patent doctrine, it is first necessary to consider how courts and scholars conceptualize patents as legal rights and whether their justification for doing so is valid. Of course, it is beyond doubt that patents are property rights. The oftstated reason seems deceptively simple: patents secure only the right to exclude. Thus, the syllogism that establishes that patents are property is relatively straightforward: If patents are defined solely by the right to exclude, and the Supreme Court has declared the right to exclude to be "one of the most essential sticks in the bundle of rights that are commonly characterized as property," then patents are property.

Notably, the Supreme Court claimed that property is defined by the "essential stick[]" of the right to exclude in a takings case involving tangible property rights, not patents. This is prima facie evidence that the exclusion concept of patents follows the same conceptual contours as the exclusion concept of property in land.²⁷ This initial obser-

^{26.} Kaiser Aetna v. United States, 444 U.S. 164, 176 (1979).

^{27.} See, e.g., Felix S. Cohen, Dialogue on Private Property, 9 RUTGERS L. REV. 357, 370–71 (1954) (analyzing "property" as a legal entitlement that is essentially defined by the

vation is further supported by the Court's follow-on use of similar language in its more recent intellectual property decisions, in which it has referred to "the right to exclude" as "the hallmark of a protected property interest." Ultimately, Part III will establish this correlation as causation, but before such intellectual influences can be identified in the historical record, it is necessary to establish that the exclusion concept of patents is the foundation of modern patent jurisprudence and to assess critically the evidence for this proposition.

A. Patents and the Right to Exclude

The Federal Circuit has stated bluntly that it is "elementary" that "a patent grants only the right to *exclude others* and confers no right on its holder to make, use, or sell" an invention, ²⁹ often asserting this "bedrock principle" with no further analysis or validation. ³⁰ Scholars agree. The leading patent treatise, authored by Donald Chisum, states that "a patent grants to the patentee and his assigns the right to *exclude* others from making, using, and selling the invention. It does not grant the affirmative right to make, use or sell." ³¹ Patent law casebooks all teach students this basic conceptual point, ³² as do intellec-

[&]quot;right to exclude"); Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV. 730, 754 (1998) ("[P]roperty means the right to exclude others from valued resources, no more and no less.").

^{28.} Coll. Sav. Bank v. Fla. Prepaid Postsecondary Educ. Expense Bd., 527 U.S. 666, 673 (1999).

^{29.} Bio-Tech. Gen. Corp. v. Genentech, Inc., 80 F.3d 1553, 1559 (Fed. Cir. 1996).

^{30.} Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc. 381 F.3d 1111, 1115 (Fed. Cir. 2004))); see also Intergraph Corp. v. Intel Corp., 195 F.3d 1346, 1355 (Fed. Cir. 1999) (noting that "the patent grant is a legal right to exclude, not a commercial product in a competitive market"); Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1548 (Fed. Cir. 1983) (recognizing that "a patent is a form of property right, and the right to exclude recognized in a patent is but the essence of the concept of 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.'").

^{31. 5} DONALD S. CHISUM, CHISUM ON PATENTS § 16.02[1] (2008).

^{32.} See, e.g., MARTIN J. ADELMAN ET AL., CASES AND MATERIALS ON PATENT LAW 1 (1998) ("[A]t essence the patent system offers the inventor a relatively simple bargain: disclosure of a technological advance in exchange for the right to exclude others from employing it."); DONALD S. CHISUM ET AL., PRINCIPLES OF PATENT LAW 4 (3d ed. 2004) ("[A] patent gives an inventor the right to exclude. A patent does not give the inventor the positive right to make, use, or sell the invention."); ROBERT PATRICK MERGES & JOHN FITZGERALD DUFFY, PATENT LAW AND POLICY 49 (4th ed. 2007) ("Unlike other forms of property, however, a patent includes only the right to exclude and nothing else. Patent rights are wholly negative rights — rights to stop others from using — not positive rights to use the invention."); KIMBERLY PACE MOORE ET AL., PATENT LITIGATION AND STRATEGY 3 (1st ed. 1999) (noting that "a patent confers the right to exclude"); cf. THOMAS W. MERRILL & HENRY E. SMITH, PROPERTY 163 (2007) ("The holder of a patent has the right to exclude others from the patented invention."). But nothing in the patent gives the patentee the affirmative right to use the invention.").

tual property hornbooks.³³ Academic scholarship is rife with assertions of the exclusion concept of patents.³⁴

The definition of patents in terms of the right to exclude seems plausible and quite useful in practice. Patent lawyers use this definition to disabuse their clients of the notion that they can do whatever they want with their inventions simply because they have secured a patent.³⁵ For academics and judges, this definition has also served as a heuristic for differentiating modern patents from their historical ancestors: While early English patent grants imposed a duty of manufacture on patentees, a modern American patentee may do nothing with its property except sue others for infringement.³⁶ Moreover, the exclu-

33. See, e.g., DONALD S. CHISUM & MICHAEL A. JACOBS, UNDERSTANDING INTELLECTUAL PROPERTY LAW 2-216 (1992) ("A patent grants only the right to exclude others, not an affirmative right to make, use or sell an invention."); SHELDON W. HALPERN ET AL., FUNDAMENTALS OF UNITED STATES INTELLECTUAL PROPERTY LAW 252 (1999) (stating that "the patent grant does not give the patentee the right to make, use, sell, offer for sale, or import, but rather it provides a right to exclude"); 1 JOHN GLADSTONE MILLS III ET AL., PATENT LAW FUNDAMENTALS § 1:4 (2d ed., rev. 2008) (explaining that the patent statutes secure only "the fundamental right of exclusivity in the subject matter of the invention"); JANICE M. MUELLER, AN INTRODUCTION TO PATENT LAW 14 (2d ed. 2006) ("Importantly, this property right [in a patent] is a negative right; i.e., a right to exclude others from making, using, selling, offering to sell, or importing the patented invention in the United States during the term of the patent."); ROGER E. SCHECHTER & JOHN R. THOMAS, PRINCIPLES OF PATENT LAW 4 (2004) ("Patents confer the right to exclude others from making, using, selling, offering to sell, and importing the protected invention.").

34. See, e.g., John R. Allison & Mark A. Lemley, The (Unnoticed) Demise of the Doctrine of Equivalents, 59 STAN. L. REV. 955, 958 n.10 (2007) ("[T]he patent right is a negative one-the right to exclude others from making, using, selling, offering to sell, or importing the patented invention."); Burk & Lemley, supra note 13, at 1665 ("[T]he patent right to exclude has been regarded as a nearly absolute property rule "); Christopher A. Cotropia, Patent Law Viewed Through an Evidentiary Lens: The "Suggestion Test" as a Rule of Evidence, 2006 BYU L. REV. 1517, 1523 ("At the core of the United States patent system is the right to exclude."); Rebecca S. Eisenberg, Intellectual Property at the Public-Private Divide: The Case of Large-Scale cDNA Sequencing, 3 U. CHI. L. SCH. ROUNDTABLE 557, 562 (1996) ("A patent gives an inventor the right to exclude others from making, using, and selling the invention for a limited term . . . "); Shubha Ghosh, Exclusivity—The Roadblock to Democracy?, 50 St. Louis U. L.J. 799, 806 (2006) ("Patents, for example, grant a strong right to exclude in exchange for complete disclosure of the invention to the public."); Kieff & Paredes, supra note 12, at 198 ("[P]atents only give a right to exclude. The right to use is derived from sources external to IP law."); Robert P. Merges & Richard R. Nelson, On the Complex Economics of Patent Scope, 90 COLUM. L. REV. 839, 861 n.96 (1990) ("[A] patent grant is a right to exclude, not an affirmative right to practice an invention.").

35. See, e.g., Eric R. Benson, Intellectual Property Law, VT. B.J. & L. DIG., Dec. 1994, at 42, 43 (observing that "a patent gives the inventor only the right to exclude others" and that this is "[o]ne of the most fundamental aspects of patent law [that] often escapes the inventor," which is that a "patent does not grant to an inventor any right to manufacture, use or sell their invention, because such a manufacture, use or sale may itself infringe upon someone else's patent"); Gavin T. Bogle & Elizabeth R. Wyeth, An In-House Perspective on the Preparation for Litigation in the Biotechnology Industry, 760 PRAC. L. INST./PAT. 509, 511 (2003) ("When trying to explain the role of patents to clients, I often recite the adage 'patents are merely the right to sue.' This explanation is usually necessary to clarify confusion between freedom to operate issues and the right to exclude conferred by our own patents.").

36. See infra notes 222-36 and accompanying text.

sion concept of patents establishes a convenient conceptual framework for the normative economic analysis of patents within the now familiar Calabresi-Melamed distinction between legal remedies — property rules (injunctions) versus liability rules (damages).³⁷

Yet the exclusion concept of patents does more than provide prudential guidance in either client counseling or normative legal analysis. Most important, the exclusion concept of patents purports to conceptually differentiate this species of property from tangible property rights, such as land.³⁸ Judge Giles S. Rich provided his students at Columbia Law School with a paradigmatic explanation of this conceptual distinction between the legal rights secured to inventors and landowners:

The right to exclude, without the right to use, is somewhat peculiar to patent law In contrast [to patents], the property right in real property (e.g., land) or personal property (e.g., a car or computer) is a right to use that carries with it a logically subordinate right to exclude. That right to exclude exists to ensure the owner's full enjoyment of the right to use.³⁹

Judge Rich's conceptual (or what economists call "positive") distinction between patents and tangible property was not an exercise in academic fancy. He was an extremely influential proponent of the exclusion concept of patents, having served as a young patent lawyer on the legislative committee that drafted the 1952 Patent Act, ⁴⁰ and then later as a judge on the Court of Appeals for the Federal Circuit. ⁴¹ As a lawyer, legislative draftsman, and judge, his oft-cited writings

^{37.} See, e.g., Smith Int'l, Inc. v. Hughes Tool Co., 718 F.2d 1573, 1581 (Fed. Cir. 1983) ("The very nature of the patent right is the right to exclude others. Once the patentee's patents have been held to be valid and infringed, [t]he infringer should not be allowed to continue his infringement in the face of such a holding."); Robert P. Merges, Of Property Rules, Coase, and Intellectual Property, 94 COLUM. L. REV. 2655, 2673 (1994) (discussing property rules/liability rules schema as an example of "the application of property rights theory to intellectual property").

^{38.} See, e.g., Lemley, supra note 23, at 1031–32 (arguing that intellectual property is "a unique form of legal protection" and not "simply a species of real property").

^{39.} CHISUM ET AL., *supra* note 32, at 5 (quoting Judge Rich's lecture notes from a patent law course he taught at Columbia Law School).

^{40.} See Giles S. Rich, Congressional Intent—Or, Who Wrote the Patent Act of 1952?, in PATENT PROCUREMENT AND EXPLOITATION 61, 67–69 (The Sw. Legal Found. ed., 1963) (discussing composition of the Drafting Committee for the bill that became the 1952 Patent Act, which included Messrs. Ashton, Federico, Rich, and Rose).

^{41.} See CHISUM ET AL., supra note 32, at 24.

best represent the ubiquitous endorsement of the exclusion concept of patents within modern patent jurisprudence.⁴²

B. The Justification for the Exclusion Concept of Patents

Courts and scholars deem the exclusion concept of patents to be both elementary and fundamental, and this perhaps accounts for the surprisingly under-theorized status of patents as property. The treatment of this important conceptual issue in modern treatises and casebooks is negligible, spanning only a few pages at best. 43 In these brief exegeses, scholars and jurists consistently invoke two doctrinal scenarios as evidence for the necessity of defining patents in terms of only a negative right to exclude: (1) blocking patents, and (2) regulation of patents by the administrative state. In other words, patents are conceptually differentiated from land, not due to any alleged categorical imperative about the uniqueness of propertized inventions, but because of seemingly important doctrinal differences between the enforcement of tangible and intangible property entitlements.⁴⁴ Such an empirical orientation in patent law is laudable — embracing the inherent functional concerns of the law rather than erecting purely abstract Platonic structures — but it remains to be seen whether these doctrinal examples serve as necessary and sufficient proofs for the exclusion concept of patents.

1. Blocking Patents

The first doctrinal example regularly invoked as evidence of the validity of the exclusion concept of patents is the phenomenon of blocking patents. A blocking patent exists when two separate patents cover aspects of the same invention, and thus each patentee can exercise his right to exclude the other patentee from using his respective contribution to this invention. A typical example of a blocking patent scenario is as follows:

^{42.} See, e.g., Arachnid, Inc. v. Merit Indust., Inc., 939 F.2d 1574, 1578 (Fed. Cir. 1991) (Rich, J.) ("At the outset, we note that although the act of invention itself vests an inventor with a common law or 'natural' right to make, use and sell his or her invention absent conflicting patent rights in others . . . , a patent on that invention is something more. A patent in effect enlarges the natural right, adding to it the right to exclude others from making, using or selling the patented invention."); Giles S. Rich, The Relation Between Patent Practices and the Anti-Monopoly Laws, 14 FED. CIR. B.J. 21, 25–32 (2004) (explaining how and why patents secure only the right to exclude).

^{43.} See sources cited supra note 33.

^{44.} See, e.g., Edward C. Walterscheid, Divergent Evolution of the Patent Power and the Copyright Power, 9 MARQ. INTELL. PROP. L. REV. 307, 330 (2005) ("The reason the [patent] right is treated as a negative one to exclude rather than a positive one is that the positive right may in certain circumstances be subject to legal restriction.").

A obtains a patent on a new product, such as a new drug. Several years later, B discovers a new process for using A's drug, and this discovery constitutes a patentable invention itself (the process is novel, nonobvious, and has utility). The resulting two patents held by A and B cover overlapping aspects of the same invention: (i) the drug and (ii) a particular process for using the drug. A can thus exercise her right to exclude B from using her patented drug in commercially exploiting his new process, regardless of B's inventive act in discovering a new use for A's drug. In this situation, A has a "blocking patent," because she can block B's use of his own patented process. (B can also exclude A from using his process, but A has the greater scope of exclusivity here, because she has a prior claim in the product, which she can continue to use as long as she avoids B's patented process.)

Such situations are quite common, as inventive activity often builds on earlier innovation, and thus prior inventors are able to exclude follow-on commercial applications of their inventions. ⁴⁵ Scholars, however, do not invoke the blocking patent phenomenon simply because of its omnipresence in real world practice; rather, they maintain that blocking patents provide insight into the conceptual nature of the right to exclude secured by a patent.

Among the many brief references to blocking patents, ⁴⁶ Professor

^{45.} See, e.g., Prima Tek II, L.L.C. v. A-Roo Co., 222 F.3d 1372, 1379 n.2 (Fed. Cir. 2000) ("A 'blocking patent' is an earlier patent that must be licensed in order to practice a later patent. This often occurs, for instance, between a pioneer patent and an improvement patent."); Advanced Cardiovascular Sys., Inc. v. Medtronic, Inc., 81 F. Supp. 2d 978, 989 (N.D. Cal. 1999) ("Under the principles of improvement patents, the examiner was entitled to allow a patent whose claims were an improvement over a previously patented design, even if the older design might block the new design from being practiced.").

^{46.} See, e.g., CHISUM ET AL., supra note 32 (explaining under section heading "The Right to Exclude Others" that patents secure only the right to exclude and then discussing blocking patents as illustration); CHISUM & JACOBS, supra note 33, at 2-216-17 (referencing blocking patents as an "example" that proves that a "patent grants only the right to exclude others"); ROBERT P. MERGES ET AL., INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE 114 (3d ed. 2003) (discussing blocking patents as evidence of how the "exclusionary right is in a sense a negative right"); MERGES & DUFFY, supra note 32, at 49 (discussing blocking patents as evidence that "a patent includes only the right to exclude and nothing else"); MUELLER, supra note 33, at 15-16 (discussing blocking patents as exemplifying the exclusion concept of patents); SCHECHTER & THOMAS, supra note 33, at 4-5 (explaining that patents secure only a right to exclude and then discussing blocking patents to "illustrate this principle"); Herbert Hovenkamp et al., Anticompetitive Settlement of Intellectual Property Disputes, 87 MINN. L. REV. 1719, 1726-27 (2003) (recognizing that blocking patents reflect a situation "in which each party would have the right to exclude the other from the market if the competing patents are held valid"); Kieff, supra note 10, at 719 n.102 (discussing blocking patents as an example of how "the patent right is only the right to

Robert Merges best explains that the exclusion concept of patents is "necessitated by the existence of blocking patents," because otherwise an overlapping patent would necessarily result in an illegitimate restriction of another property owner's "affirmative right to actually carry into practice a particular invention."⁴⁷ In sum, if a patentee has a right to use a patented invention, then a blocking patent, which is another valid patent that can exclude such use, would necessarily entail an infringement of this use-right. The Patent and Trademark Office would be in the impossible situation of granting a valid patent that necessarily infringed another patent by its mere issuance. The law does not countenance such contradictions. 48 Thus, it seems logically inescapable that the conceptual content of a patent necessarily comprises a negative right to exclude.

A central premise in the blocking patent example is that there is no parallel to it in the realm of tangible property, which is why blocking patents are cited as evidence of the conceptual uniqueness of patents as property. Although this premise usually goes unstated, Professor John Duffy makes clear that this is the primary function of the blocking patent example, as he uses blocking patents to explicitly contrast the "bundle of rights" secured in real property, subsuming the "positive rights of possession and enjoyment," with what he refers to as "the negative right of exclusion" in a patent. 49 Professor Duffy concludes: "The formulation of the patent right in purely negative terms facilitates the granting of multiple overlapping or 'blocking'

exclude—and confers no affirmative right to use"); Mark A. Lemley, The Economics of Improvement in Intellectual Property Law, 75 Tex. L. Rev. 989, 1052-71 (1997) (discussing generally the role and function of blocking patents); Joseph Scott Miller, Building a Better Bounty: Litigation-Stage Rewards for Defeating Patents, 19 BERKELEY TECH. L.J. 667, 692-94 (2004) (discussing how patentees may block each other's commercial development of a product via the "right to exclude"); Allen C. Nunnally, Intellectual Property Perspectives in Pharmacogenomics, 46 JURIMETRICS J. 249, 250 n.3 (2006) (discussing blocking patent scenario as evidence that patents secure "only the right to exclude"); A. Samuel Oddi, The Tragicomedy of the Public Domain in Intellectual Property Law, 25 HASTINGS COMM. & ENT. L.J. 1, 40 (2002) (highlighting the blocking patent scenario as evidence of how "the grant of a patent encompasses only the 'positive' right to exclude others and not what may be called the 'strong version of the positive right' to exploit the claimed invention"); Gary Pulsinelli, Share and Share Alike: Increasing Access to Government-Funded Inventions Under the Bayh-Dole Act. 7 MINN, J.L. SCI, & TECH. 393, 414 (2006) ("The positive right/negative right distinction comes into play with blocking patents.").

47. Robert P. Merges, One Hundred Years of Solicitude: Intellectual Property Law, 1900-2000, 88 CAL. L. REV. 2187, 2222 (2000); see also Merges & Nelson, supra note 34, at 861 n.96 (observing that "a subservient patent can prevent a dominant patent holder from practicing the particular improved feature claimed in the subservient patent because a patent grant is a right to exclude, not an affirmative right to practice an invention").

48. See Mastoras v. Hildreth, 263 F. 571, 575-76 (9th Cir. 1920) (noting that a patent covering an inventive aspect of subject matter already under another patent does not infringe that earlier patent).

49. John F. Duffy, Rethinking the Prospect Theory of Patents, 71 U. CHI. L. REV. 439, 456 (2004).

patents, each with the power to exclude the other." Accordingly, it seems that the exclusion concept of patents is the only conceivable way in which to define patents as property, and this is proven by the allegedly unique phenomenon of blocking patents.

Is it true that there is no analogous exclusive restriction of userights by owners of tangible property? The answer is no, as there are numerous circumstances in tangible property doctrine in which property owners exclude other property owners in the exercise of shared use-rights in the same subject matter. One finds competing use-rights between landowners in cases involving concurrent estates, easements, restrictive covenants, and nuisances, but the most salient and directly analogous example is in water law cases.

Before investigating how owners of water rights exercise exclusive use-rights in shared water flow, however, it is important to understand the scope and purpose of this inquiry. What follows is not a thorough and extensive analysis of water law, which is an extremely complex legal regime that seeks to resolve incompatible claims to the use of a fluid resource that shares some "public good" characteristics with intellectual property. In fact, such similarities probably explain why one finds sporadic references to water law in modern intellectual property scholarship.⁵¹ As with these references, the presentation here does not provide a comprehensive doctrinal comparison between water law and patent law, nor is such an assessment even possible in a brief subsection. The purpose of this comparison has only a specific, limited function: It highlights that blocking patents are insufficient evidence for the exclusion concept of patents. If the point of the blocking patent example is to reveal with precision the crucial conceptual distinction between patents and tangible property rights, then the existence of a similar doctrinal phenomenon in tangible property law calls into question the explanatory force of the blocking patent argument. Water law is this tangible property doctrine par excellence.

Property rights in water are defined by two differing legal regimes: riparian and prior appropriation.⁵² Regardless of which one governs a water resource, however, water rights are a real property interest.⁵³ Even more important, water rights comprise only an exclu-

^{50.} Id. at 456-57.

^{51.} See, e.g., Richard A. Epstein, Intellectual Property: Old Boundaries and New Frontiers, 76 IND. L.J. 803, 805 (2001); Henry E. Smith, Intellectual Property as Property: Delineating Entitlements in Information, 116 YALE L.J. 1742, 1744 (2007).

^{52.} See Colorado v. New Mexico, 459 U.S. 176, 179 n.4 (1982) (describing riparian and prior appropriation systems of water law and their principal differences).

^{53.} See California v. Superior Court of Riverside County ex rel. Underwriters at Lloyd's of London, 93 Cal. Rptr. 2d 276, 281 (Ct. App. 2000) (noting under both riparian and prior appropriation regimes, "a water right itself has been considered an interest in real property"); see also Hargrave v. Cook, 41 P. 18, 19 (Cal. 1895) (A landowner's riparian "rights are not easements, nor appurtenances to his holding. They are not the rights acquired by appropriation or by prescriptive use. They are attached to the soil, and pass with it."); Gard-

sive right to use a water flow (what courts sometimes call a usu-fruct).⁵⁴ Thus the principal conflicts in water law, especially in riparian systems, are between separate owners with contested claims to the use of the same body of water, such as landowners on opposite banks of a river or at different locations along a stream.

A survey of such riparian conflicts reveals striking factual and doctrinal similarities with blocking patents. As a preliminary matter, each situation involves overlapping property claims to the same subject matter. In a riparian context, two claims share the water flow in the same river or stream,⁵⁵ and in patent law, two patents share certain aspects of the same invention.⁵⁶ The doctrinal clams are strikingly similar as well. As with the two opposing patentees in a blocking patent situation, quarreling riparian owners each have a legitimate property claim to this contested water flow.⁵⁷ Significantly, as in patent law, riparian owners are not required to actively use their claimed water to retain their claim to their use-rights to the water flow, which ultimately permits them to exclude unauthorized uses by other riparian owners that impinge on these use-rights.⁵⁸ Lastly, as in patent law,

ner v. Trs. of Newburgh, 2 Johns. Ch. 162, 165–66 (N.Y. Ch. 1816) ("A right to a stream of water is as sacred as a right to the soil over which it flows. It is a part of the freehold, of which no man can be disseised 'but by lawful judgment of his peers, or by due process of law."").

54. See Colorado, 459 U.S. at 179 n.4 (noting that in a prior appropriation system, water "rights do not depend on land ownership and are acquired and maintained by actual use"); Druley v. Adam, 102 Ill. 177, 193 (1882) (recognizing that in a riparian system an "owner of land over which a stream of water flows, has, as incident to his ownership of the land, a property right in the flow of the water," but this right is only "a usufruct in the water while it passes"); Koch v. Aupperle, 737 N.W.2d 869, 878 (Neb. 2007) ("Riparian rights extend only to the use of the water, not to its ownership; a riparian right is thus said to be usufruct only.").

55. See People v. Platt, 17 Johns. 195, 210 (N.Y. Sup. Ct. 1819) ("Fresh rivers... belong to the owners of the soil adjacent, so that the owners of one side have, of common right, the propriety of the soil, and, consequently, the right of fishing usque ad filum aquæ, and the owners of the other side, the right of soil or ownership and fishing unto the filum aquæ on their side...." (quoting LORD HALE, DE JURE MARIS ET BRACHIONUM FUISDEM))

56. See Cantrell v. Wallick, 117 U.S. 689, 694 (1886) ("Two patents may both be valid when the second is an improvement on the first, in which event, if the second includes the first, neither of the two patentees can lawfully use the invention of the other without the other's consent.").

57. See, e.g., Koch, 737 N.W.2d at 878 (noting as one of the most significant "maxims" of riparian doctrine that "[a]ll riparian proprietors have an equal and correlative right to use the waters of an abutting stream" (quoting RICHARD S. HARNSBERGER & NORMAN W. THORSON, NEBRASKA WATER LAW & ADMINISTRATION 24 (1984))); see also Lavery v. Arnold, 58 P. 524, 524 (Or. 1899) ("The complaint alleges that plaintiff's predecessor in interest made a prior appropriation of the waters of said creek in 1883, and that in 1890 the defendant unlawfully diverted the waters thereof, to plaintiff's damage, etc.").

58. See, e.g., Colorado, 459 U.S. at 179 n.4 ("Riparian rights... originate from land ownership and remain vested even if unexercised."); Bathgate v. Irvine, 58 P. 442, 444 (Cal. 1899) ("Nor can the nonuser of the water by the upper riparian owner of land be invoked to strengthen the claim of appropriation or prescription by the lower riparian owner under like circumstances." (citing Hargrave v. Cook, 41 P. 18, 19 (Cal. 1895))); Peake v. Harris, 192

a plaintiff riparian owner enforces its use-right against a defendant by obtaining the only remedy that protects his exclusive use of his property— an injunction prohibiting the unauthorized use of the water flow.⁵⁹

This admittedly brief survey of riparian disputes reveals that conflicting claims over the use of similar subject matter, in which the remedy sought is an injunction enforcing a right of exclusion, are not unique to patent law as opposed to tangible property. Even more significant for our purposes, the exclusion exercised by riparian owners is based on a single, unitary right — the right to use the water. Yet patent scholars and jurists maintain that such a use-right must be non-existent if exclusion of blocking uses is even conceivable in patent law. This suggests that modern patent scholars and jurists have misunderstood the nature of the substantive use-rights in tangible property entitlements, but that is not the point of this discussion here (this will be addressed in Part III). Rather, the riparian conflict reveals that the blocking patent phenomenon is insufficient evidence to prove the necessity of the exclusion concept of patents.

2. The Regulation of Patents by the Administrative State

Scholars also invoke a second example in tandem with blocking patents in support of the exclusion concept of patents: The regulation of patents by the administrative state. Unlike with the blocking patent example, however, this "regulatory state argument" is far less sophisticated in its legal details. Professors Robert Merges, Peter Mennell and Mark Lemley restate the regulatory state argument in its usual succinct formulation: "A patent does not automatically grant an affirmative right to do anything; patented pharmaceuticals, for instance, must still pass regulatory review at the Food and Drug Administration

P. 310, 318 (Cal. Dist. Ct. App. 1920) ("The decisions are unanimous to the effect that each of such [riparian] owners has the right to the reasonable use of the stream on his own land and that this right is neither gained by use nor lost by disuse, but constitutes a part and parcel of the land and of the ownership thereof." (citing *Hargrave*, 41 P. at 19)); *Koch*, 737 N.W.2d at 879 (acknowledging the long-standing maxim that "disuse neither destroys nor qualifies" a riparian right (quoting RICHARD S. HARNSBERGER & NORMAN W. THORSON, NEBRASKA WATER LAW & ADMINISTRATION 25 (1984))); Sowles v. Minot, 73 A. 1025, 1029 (Vt. 1909) (noting that the mere nonuse of a property right in water was insufficient by itself to consider the water right abandoned); *In re* Deadman Creek Drainage Basin in Spokane County, 694 P.2d 1071, 1074 (Wash. 1985) (en banc) ("Under the common law, mere disuse of riparian rights did not destroy or suspend their existence." (citing Rigney v. Tacoma Light & Water Co., 38 P. 147, 149 (Wash. 1894))).

^{59.} See, e.g., Peake, 192 P. at 318 (noting the rule that a downstream riparian owner may "enjoin" an upstream owner if he can prove "unreasonable use to his injury") (citations omitted); Dumont v. Kellogg, 29 Mich. 420, 421 (1874) (applying the riparian rule that "no proprietor has the right to use the water to the prejudice of the proprietors below him, without the consent of the proprietors below").

to be sold legally." In sum, scholars and jurists maintain that the exclusion concept of patents must be valid given a state agency's regulatory restrictions on the use and disposition of a patented invention.

As a preliminary matter, it is striking how the scope of the regulatory state argument seems almost self-consciously limited to patents, because it has an unintended, but necessary, implication: According to its premises, it delegitimizes regulations of all tangible property rights. This logical corollary of the regulatory state argument follows from its unstated premise that there is an either-or choice in patent law: either use-rights or use restrictions by regulatory agencies. The regulatory state argument assumes that there cannot be both. If patentees have use-rights in their property, the Food and Drug Administration's restrictions on the uses of pharmaceutical patents, as well as the innumerable regulations of other patented inventions by the government, must necessarily infringe these use-rights. If such regulations are valid, they do not infringe any right of the patentee; thus the patent does not secure any substantive use-right. The regulatory state argument offers only one logically permissible choice: either the right to exclude and regulations or use-rights and no regulations.

When this either-or premise is identified, however, it becomes apparent that the regulatory state argument is made without any regard for its logical implications for tangible property rights. Patent scholars acknowledge that tangible property, such as real estate, secures the full "bundle" of rights of use or possession. Yet tangible property rights are heavily regulated by federal, state and local governments — something all first-year law students learn when they study rent control, zoning, and many other state regulations that restrict how landowners may use their property. If the either-or prem-

^{60.} MERGES ET AL., *supra* note 46, at 114. For additional variations of this argument in academic scholarship, see, for example, CHISUM & JACOBS, *supra* note 33, at 2-216; SCHECHTER & THOMAS, *supra* note 33, at 4; F. Scott Kieff, *Patents for Environmentalists*, 9 WASH. U. J.L. & POL'Y 307, 308 (2002); Pulsinelli, *supra* note 46, at 413; David B. Resnik, *DNA Patents and Human Dignity*, 29 J.L. MED. & ETHICS 152, 153 (2001).

The Federal Circuit has repeated the regulatory state argument. See Prima Tek II, L.L.C. v. A-Roo Co., 222 F.3d 1372, 1379 (Fed. Cir. 2000) ("A patent represents the legal right to exclude [and] may be subject to further limitations such as governmental restrictions or 'blocking' patents"); Mallinckrodt, Inc. v. Medipart, Inc., 976 F.2d 700, 703 (Fed. Cir. 1992) ("The enforceability of restrictions on the use of patented goods derives from the patent grant, which is in classical terms of property: the right to exclude.").

Congressmen have also invoked the regulatory state argument, as evidenced by the legislative history to the Hatch-Waxman Act, which provided a safe harbor from infringement for generic drug manufacturers. *See* H.R. REP. No. 98-857, pt. 2, at 8 (1984) ("The patent holder retains the right to exclude others from the major commercial marketplace during the life of the patent. Thus, the nature of the [legislation's] interference with the rights of the patent holder is not substantial.").

^{61.} See supra notes 39, 47, 49 and accompanying text.

^{62.} See, e.g., Yee v. City of Escondido, 503 U.S. 519, 519 (1992) (rent control is valid regulation of property use); Jones v. Alfred H. Mayer Co., 392 U.S. 409, 413 (1968) (legis-

ise of the regulatory state argument is applied to the acknowledged use-rights secured in land, chattels, water, and minerals, then either these ubiquitous regulations are necessarily invalid, ⁶³ or tangible property is defined only by a right to exclude, which defeats the point of using the exclusion concept of patents to differentiate the legal entitlements secured in inventions from those secured in land.

This dilemma results from the regulatory state argument eliding an important descriptive fact about all property entitlements, whether tangible or intangible: Property rights have substantive content that is distinct from a public regulatory regime, which may create privileges or impose restrictions on that property interest. When public regulatory regimes are adopted in place of pre-existing private-ordering mechanisms for securing or controlling property interests, the public regulation of the property interest may take one of two approaches, as best illustrated in the context of real property law. On one hand, a public regulation may track the original goals of the pre-existing private-ordering mechanisms. Title recordation requirements, for instance, replaced the feudal ceremonial requirement of "enfeoffment of livery of seisin" precisely because this public regulation was better at proving a valid chain of title.⁶⁴ An official legal deed recorded in a central governmental office better achieved the evidentiary function of proving ownership than finding witnesses to testify to a symbolic conveyance of a clod of dirt and a twig. 65 Another example is zoning, which may restrict land use in place of private-ordering mechanisms, such as nuisance actions or restrictive covenants.⁶⁶

On the other hand, a public regulation may impose on a property owner a different set of substantive restrictions that achieve normative goals distinct from those already at work within the pre-existing set of

lation prohibiting discriminatory uses of property is valid); Village of Euclid v. Ambler Realty Co., 272 U.S. 365, 394–95 (1926) (zoning is valid regulation of property use).

^{63.} Many patent scholars reject this proposition because of their implicit acceptance of the legitimacy of regulations, at least as a descriptive matter. See, e.g., Rebecca S. Eisenberg, The Shifting Functional Balance of Patents and Drug Regulation, HEALTH AFF., Sept./Oct. 2001, at 119, 123 (advocating use of the FDA's data-exclusivity regulations as a substitute for patents); Robert P. Merges, Intellectual Property in Higher Life Forms: The Patent System and Controversial Technologies, 47 MD. L. REV. 1051, 1064 (1988) (observing that "a powerful FDA has far-reaching powers to regulate drugs and medical devices").

^{64.} Cf. Riddle v. Harmon, 162 Cal. Rptr. 530, 534 (Ct. App. 1980) ("We discard the archaic rule that one cannot enfeoff oneself.... because it rests on a common law notion whose reason for existence vanished about the time that grant deeds and title companies replaced colorful dirt clod ceremonies as the way to transfer title to real property.").

^{65.} See Richard A. Epstein, Notice and Freedom of Contract in the Law of Servitudes, 55 S. CAL. L. REV. 1353, 1356–57 (1982) (observing that there is an "enormous reduction in uncertainty that recordation offers every participant within the system" because "[a]ctual notice typically is provided by, and properly may be inferred from, proper recordation").

^{66.} See Ambler Realty Co., 272 U.S. at 387–88 (justifying zoning on the grounds that this public-ordering regime preempted "offensive trades, industries and structures likely to create nuisances," and thus the "scope of [the zoning] power" was defined by the pre-existing common law "maxim sic utere tuo ut alienum non laedas").

property entitlements. In such a situation, property owners become subject to two sets of legal regimes — a public regulatory regime and a private property regime — and each regime represents differing substantive requirements for the use of the property. For instance, a modern riparian owner is subject to the usual private constraints, such as trespass actions by other property owners who might be negatively impacted by his use of their property, ⁶⁷ but a riparian owner's use of his property is also subject to environmental regulations promulgated by federal and state agencies.⁶⁸ These environmental regulations impose restrictions on riparian owners on the basis of a distinct normative principle — the protection of water resources independent from any specific or immediate harm inflicted on any other property owner. In such a situation, riparian owners are accountable to two overlapping bodies of law with differing and potentially inconsistent goals. But it is a non sequitur to conclude that when a public regulation abrogates pre-existing common law rights, those common law rights never had any independent substantive content of their own.⁶⁹

The idea that pre-existing property interests lack substantive content in the face of conflicting regulatory restraints is, however, the implicit premise of the regulatory state argument. The archetypical example of the regulatory state argument states that the FDA's regulation of pharmaceutical patents necessarily evidences that there must be no use-rights in patents simply because the FDA restricts how a patentee may use its property in the marketplace. But the FDA restricts the uses of pharmaceutical patents no more and no less than the EPA restricts the uses of riparian rights; in the words of patent scholars, a developer's ownership of water resources today "does not automatically grant [him] an affirmative right to do anything" until the relevant state and federal agencies have signed off on the commercial project. Courts and riparian scholars are not declaring the non-

^{67.} See supra notes 55-59 and accompanying text.

^{68.} See United States v. Riverside Bayview Homes, Inc., 474 U.S. 121, 122 (1985) (holding that the Army Corps of Engineers may regulate the use of wetlands under the authority delegated to it by the Clean Water Act); Just v. Marinette County, 201 N.W.2d 761, 772 (Wis. 1972) (affirming validity of regulation of water and wetland by state and local ordinances); 1 HENRY PHILIP FARNHAM, THE LAW OF WATERS AND WATER RIGHTS § 63, at 284 (1904) (observing that rights of riparian owner "are always subordinate to the public rights, and the state may regulate their exercise in the interest of the public"). Cf. New Jersey v. Delaware, 128 S. Ct. 1410, 1421 (2008) ("In the ordinary case, the State that grants riparian rights is also the State that has regulatory authority over the exercise of those rights.").

^{69.} See, e.g., J.W. Harris, Reason or Mumbo Jumbo: The Common Law's Approach to Property, 117 PROC. BRIT. ACAD. 445, 459–60 (2002) ("Despite the complexity of modern property institutions, rules of both common law and statutory origin systematically presuppose ownership conceptions. This is true of the very property-limitation rules and expropriation rules which disintegrationists invoke in support of the claim that ownership no longer means anything.").

^{70.} MERGES ET AL., supra note 46, at 114.

existence of the sole use-right that constitutes a riparian interest given EPA restrictions, nor must they do so. Admittedly, patent law differs from riparian rights insofar as the former is grounded in federal statute and the latter arose from the common law, but this distinction in doctrinal provenance does not matter for the purposes of this conceptual analysis. As evidenced by statute and case law, the American patent system has long drawn on the conceptual framework of property law to define the substantive content of patent rights.⁷¹

Nor is there any logical mandate that the existence of public regulations necessarily proves as a descriptive matter the non-existence of conflicting private rights. In fact, much of modern constitutional law addressing property rights reflects an attempt to balance competing public regulatory regimes and private property regimes. Scholars and jurists have long debated the normative legitimacy of such balancing doctrines, and this debate is cognizable to lawyers and laypersons alike because these normative conflicts do not wipe out the underlying descriptive accounts of these legal rights. This confirms the conceptual point that it is possible to have conflicting legal regimes with overlapping authority over a property entitlement, such as a person's right to use land, chattels, or water. Public regulatory regimes do not wipe out the conceptual content of competing private-ordering mechanisms.

As with the blocking patent phenomenon, the regulatory state argument fails to account for the logical implications of how it applies to tangible property interests in land, chattels, or water. The regulatory state argument fails precisely because it asserts as a central premise an either-or alternative between public regulation and private-ordering mechanisms that is more fitting for the normative analysis of the legitimacy of such options, but not a conceptual analysis of the descriptive content of either a property entitlement or its regulation. This does not mean, of course, that patents and land cannot be differentiated from each other — the exclusion concept of patents may still be valid — but the regulatory state argument does not establish this truth.

C. The Right to Exclude in the 1952 Patent Act: A Statutory Mandate?

There is more to the validation of the exclusion concept of patents than appealing to blocking patents and the regulatory state argument.

^{71.} See infra Part II.A.

^{72.} See, e.g., Penn Cent. Transp. Co. v. New York City, 438 U.S. 104, 124 (1978) (recognizing "ad hoc" and case sensitive multi-prong inquiry for determining when police power regulations trigger compensation under the Takings Clause); Marsh v. Alabama, 326 U.S. 501, 509 (1946) (balancing rights to freedom of press and religion against a property owner's right to exclude trespassers).

^{73.} Compare RICHARD A. EPSTEIN, HOW PROGRESSIVES REWROTE THE CONSTITUTION (2006) with STEPHEN BREYER, ACTIVE LIBERTY (2005).

Perhaps there is an easier explanation for the universal assent to the exclusion concept of patents today: This conception of patents as property is firmly rooted in the patent statutes that govern the American patent system. Section 154 of the 1952 Patent Act specifically defines a patent as securing "the right to exclude others from making, using, offering for sale, or selling the invention." In fact, scholars and courts typically cite § 154 in their various restatements of the exclusion concept of patents. Such clear statutory language seems to leave no room for ambiguity as to the legal entitlement secured by a patent — the right to exclude, nothing more, nothing less.

This "easy answer," though, is not explanatory. To appeal to the patent statutes as the reason why the exclusion concept of patents is dominant today necessarily raises an additional question: Where did the idea behind Congress's codification of the exclusion concept in § 154 originate? In other words, it simply changes the focal point of the inquiry from modern scholarship and court decisions to Congress.

The legislative history of the 1952 Patent Act and the contemporaneous scholarship confirm that the easy answer fails to address this important conceptual issue. One of the principal drafters of the 1952 Patent Act discussed § 154 in only general terms, indicating that it clarified the nature of the right secured by a patent. When scholars at the time further explained what they meant by "clarification," they invoked the same argument used today to explain the exclusion concept of patents: the blocking patent scenario. If the blocking patents argument is insufficient proof of the logical necessity of the exclusion concept of patents, then appealing to a statutory provision originally justified by this same argument simply restates the same faulty logic in different terms.

This concern is particularly pressing when one realizes that § 154 changed the earlier statutory definitions of patents as property rights. The first four patent statutes — adopted in 1790, 1793, 1836, and

^{74. 35} U.S.C. § 154(a) (2006); *see also id.* § 271(a) (providing that "whoever without authority makes, uses, offers to sell, or sells any patented invention . . . infringes the patent"). 75. *See generally supra* notes 29–34 and accompanying text.

^{76.} See, e.g., P.J. Federico, Commentary on the New Patent Act, 75 J. PAT. & TRADEMARK OFF. SoC'Y 161, 201 (1993) (reprinted from 35 U.S.C.A. (West 1954)).

^{77.} See, e.g., L. James Harris, Some Aspects of the Underlying Legislative Intent of the Patent Act of 1952, 23 GEO. WASH. L. REV. 658, 682 n.113 (1954) (explaining § 154 by noting that blocking patents require that "the owner of a subservient patent could not exploit the invention without license from the owner of the dominant patent"); Bruce B. Krost, Peculiarities of Patents as Property, 34 J. PAT. OFF. SOC'Y 9, 20 (1952) (explaining that a patent grants only "rights of exclusion," as evidenced by the fact that "[o]ne's commercial activities will be subject to the superior rights of the owner of any unexpired patent having dominating claims"); Stefan A. Riesenfeld, The New United States Patent Act in the Light of Comparative Law, 36 J. PAT. OFF. SOC'Y 406, 430 (1954) (noting that the new patent statute makes clear that a dominant patentee may block a subservient patentee from using an invention).

^{78.} See supra Part II.B.1.

1870 — all defined patents as property rights in substantive terms, securing the same rights to possession, use, and disposition traditionally associated with tangible property entitlements. Nineteenth-century courts followed Congress's definition of patents as property, securing to patentees their "substantive rights," including the "right to manufacture, the right to sell, and the right to use" their inventions.

Undoubtedly, there were some nineteenth-century jurists, such as Chief Justice Roger Taney, who believed in the exclusion concept of patents. Such jurists, however, had to ignore the express terms of the patent statutes in force at that time, and Chief Justice Taney had no problem in doing so. In his 1852 decision in *Bloomer v. McQuewan*, for instance, Taney rewrote the 1836 Patent Act into the terms later adopted in § 154 of the 1952 Patent Act, declaring that the "patent... consists altogether in the right to exclude" and that "[t]his is all that [an inventor] obtains by the patent." Similar to the concerns expressed by historians about Taney's infamous decision in *Dred Scott*, ⁸² one patent law historian has characterized the *Bloomer* decision as an "extraordinary holding which appeared on its face so contradictory to the statutory language."

Beyond his willingness to rewrite the patent statutes in *Bloomer*, Taney's embrace of the exclusion concept of patents was idiosyncratic even amongst his fellow jurists. Unfortunately, Taney "made no attempt whatever [in *Bloomer*] to explain the basis for this extraordinary holding," but there is a colorable argument that Taney engaged in such judicial legislation due to his belief that patents were special monopoly "franchises" granted by the federal government. So Given Taney's fervent commitment to Jacksonian Democracy, he saw no

^{79.} See Patent Act of 1870, ch. 230, § 22, 16 Stat. 198, 201 (repealed 1952) (providing that "every patent shall contain . . . a grant to the patentee, his heirs or assigns, for the term of seventeen years, of the exclusive right to make, use, and vend the said invention or discovery throughout the United States and the Territories thereof"); Patent Act of 1836, ch. 357, § 11, 5 Stat. 117, 121 (repealed 1870) (providing that "every patent shall be assignable in law" and that this "conveyance of the exclusive right under any patent, to make and use, and to grant to others to make and use, the thing patented" must "be recorded in the Patent Office"); Patent Act of 1793, ch. 11, § 1, 1 Stat. 318, 321 (repealed 1836) (providing that a patent secures "the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said invention or discovery"); Patent Act of 1790, ch. 7, § 1, 1 Stat. 109, 110 (repealed 1793) (providing that a patent secures "the sole and exclusive right and liberty of making, constructing, using and vending to others to be used, the said invention or discovery").

^{80.} Adams v. Burke, 84 U.S. (17 Wall.) 453, 456 (1873).

^{81. 55} U.S. (14 How.) 539, 549 (1852).

^{82.} See, e.g., DAVID P. CURRIE, THE CONSTITUTION IN THE SUPREME COURT: THE FIRST HUNDRED YEARS 1789–1888, at 264 (1985) (describing Taney's *Dred Scott* opinion as "bad judicial politics"); Jason H. Silverman, *The Odd Couple of American Legal History*, 10 GREEN BAG 2d 511, 523 (2007) (book review) (observing that "virtually all scholars have condemned [*Dred Scott*] as an example of the dangers of judicial activism.").

^{83.} Walterscheid, supra note 44, at 330.

^{84.} *Id*

^{85.} Bloomer, 55 U.S. (14 How.) at 549.

difference between the statutes that granted an exclusive right in an invention and the statutes that granted an exclusive right in a bridge or other type of government largesse — both represent franchises doled out by state fiat. Ref. Contrary to Taney's view of patents as franchise monopolies, many of his fellow antebellum jurists, including Justice Joseph Story and Chief Justice John Marshall, conceived of patents as civil rights securing fundamental property rights.

Modern courts and scholars often cite Taney's *Bloomer* dictum as their sole historical support for the proposition that the exclusion concept of patents is long settled within American patent law, confirming its minority status. Reven more surprising, Donald Chisum's famous patent treatise flips historical precedent on its head, claiming that Taney's *Bloomer* dictum was in fact the law in 1852. Dispelling any doubts about this historical anachronism, Chisum refers to the numerous nineteenth-century court decisions that followed the substantive definition of patents set forth in the statutes in force at that time as engaging in "occasional lapses in dictum." The Federal Circuit also dismisses the substantive definition of patent rights in earlier statutes and court opinions as simply sowing "confusion."

One might rightly point out that Congress has repealed these earlier patent statutes, and thus what might have been dictum in the nineteenth century has become the law today: Section 154 establishes a clear statutory mandate of the exclusion concept of patents. This simply raises the further question of whether the 1952 Patent Act is consistent in embracing the exclusion concept of patents, because § 154 is but one provision of a lengthy and complex statutory frame-

^{86.} See Adam Mossoff, Who Cares What Thomas Jefferson Thought About Patents? Reevaluting the Patent "Privilege" in Historical Context, 92 CORNELL L. REV. 953, 1000 (2007) (discussing Taney's judicial treatment of patents within the context of his inherent suspicion of all government grants of exclusive rights, such as corporate charters, franchises and patents); id. at 966 (noting Taney's commitment to Jacksonian Democracy).

^{87.} See generally id. (discussing the dominant conception of patents in the early American Republic as property rights justified as "privileges" (civil rights) by natural rights philosophy).

^{88.} See, e.g., United States v. Line Material Co., 333 U.S. 287, 316 (1948); United Shoe Mach. Co. v. United States, 258 U.S. 451, 463 (1922); Markman v. Westview Instruments, Inc., 52 F.3d 967, 978 (Fed. Cir. 1995) (en banc); 5 CHISUM, supra note 31, § 16.02[1]; Rich, supra note 42, at 27. Cf. Brief for the United States as Amicus Curiae Supporting Petitioners at 8, Quanta Computer, Inc. v. LG Elecs., Inc., 128 S. Ct. 2109 (2008) (No. 06-937), 2007 WL 3353102 (quoting Taney's dictum in Bloomer as the proper definition of the patent right in historical discussion of first sale doctrine).

^{89. 5} CHISUM, *supra* note 31, § 16.02[1].

^{90.} *Id*.

^{91.} King Instruments Corp. v. Perego, 65 F.3d 941, 949 (Fed. Cir. 1995).

^{92.} See, e.g., Merges, supra note 47, at 2222–23 (discussing the adoption of the exclusion concept of patents in the 1952 Patent Act relative to earlier patent statutes and their judicial construction); Stefan A. Riesenfeld, The New American Patent Act in the Light of Comparative Law: Part II, 102 U. PA. L. REV. 723, 746–47 (1954) (recognizing that the exclusion concept of patents was announced by Taney in "deviation from the language of the old law, [but that it] found confirmation by the statutory terms" of the 1952 Patent Act).

work, and it is "a fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme." Applying this long-standing canon of statutory construction, 4 it appears that the 1952 Patent Act is inconsistent in its embrace of the exclusion concept of patents.

The provision of the 1952 Patent Act that raises potential difficulty is § 261, which, among other things, codifies the case law reaching back to the early American Republic that patents are property rights. ⁹⁵ Unfortunately, there is scant legislative history on § 261. The Judiciary Committee's official report, for example, did not mention this section when the bill was introduced in the House for a vote, ⁹⁶ and most commentators did not spend much time discussing this provision beyond describing its contents. ⁹⁷

Nonetheless, among the scattered references, scholars and commentators are uniform in their view that § 261 ratified the overwhelming nineteenth-century case law defining patents as property. In fact, the few commentators who did discuss § 261 expressed only two concerns about this provision: First, in making this express declaration about the property status of patents, it seemed to imply incorrectly that this was a change from the prior legal treatment of patents. ⁹⁸ Second, patents had historically been defined by courts as sharing attributes of both real and personal property, and there was some concern that the identification of patents as only "personal property" in § 261 would also inadvertently signal a change from how courts previously protected these important incorporeal property rights. ⁹⁹ The most ex-

^{93.} Davis v. Mich. Dep't of Treasury, 489 U.S. 803, 809 (1989); *see also* FDA v. Brown & Williamson Tobacco Corp., 529 U.S. 120, 132–33 (2000) (using the canon stated in *Davis* in invalidating regulation of tobacco that was based on the FDA's out-of-context construction of certain provisions of its organic statute).

^{94.} See United States v. Heirs of Boisdoré, 49 U.S. (8 How.) 113, 122 (1849) ("In expounding a statute, we must not be guided by a single sentence or member of a sentence, but look to the provisions of the whole law, and to its object and policy.").

^{95.} See 35 U.S.C. § 261 (2006) ("[P]atents shall have the attributes of personal property."). See generally Mossoff, supra note 86 (detailing how early American courts, legislatures, and legal scholars defined patents as fundamental property rights justified by natural rights philosophy).

^{96.} See generally H.R. REP. No. 82-1923 (1952) (discussing the history of patent law in the US and the purpose of several selected sections of the 1952 bill).

^{97.} See, e.g., Federico, supra note 76, at 211.

^{98.} See Patent Law Codification and Revision: Hearing on H.R. 3760 Before the Subcomm. No. 3 of the H. Comm. on the Judiciary, 82d Cong. 212 (1951) (letter of Harvey R. Hawgood, Attorney, Hawgood & Van Horn) (explaining that the proposed provision that would become § 261 "seems to imply that in some degree, patents are not personal property," which "is certainly contrary to the general conception and to the holdings of the courts up to this point").

^{99.} See id. at 79 (statement of George N. Robillard, Captain, United States Navy) ("Although patents have always been recognized as property, they have not been recognized as personal property but as having attributes of several kinds of property. . . . It is not consid-

tensive statement in the secondary literature confirms the codifying function of this provision: "The Supreme Court had recognized long ago that '[t]he privilege granted by letters patents are plainly an instance of an incorporeal kind of personal property.' The new act now expressly provides that patents shall have the attributes of personal property."100

In expressly declaring that patents are property, § 261 brings to the forefront the question whether the 1952 Patent Act codifies the substantive conception of property expressly reflected in the patent statutes and case law reaching back to 1790. The answer seems to be yes, because § 261 does more than ratify the earlier statutory and judicial classifications of patents as property. This provision also recodifies the earlier statutory language that patentees have the right to dispose of their property (via assignment or license). 101 This is significant, because the right of disposition reflected one of the core property rights in the nineteenth century — it was part of the integrated package of possession, use, and disposition rights that were secured by this type of legal entitlement. 102 To this day, courts continue to enforce such substantive rights as essential to the protection of a property right. Nineteenth-century courts also believed that the free disposition of patents was a necessary corollary of classifying patents as property entitlements. 104

Congress significantly chose to place both the historically-based disposition and property provisions in the same section of the 1952 Patent Act: Section 261. In expressly re-codifying this nineteenthcentury jurisprudence in § 261 — securing rights of use and disposition on the basis of recognizing patents as property — the 1952 Patent

ered desirable to discard over a century of law relating to patent property and replace it with the rules of personal property.").

^{100.} Riesenfeld, supra note 77, at 429–30 (quoting De la Vergne Mach. Co. v. Featherstone, 147 U.S. 209, 222 (1893)).

^{101.} See 35 U.S.C. § 261 (2006) (providing that patentees can alienate their property in whatever quantum); see also sources cited supra note 79.

^{102.} See infra Part III.A.

^{103.} See, e.g., Ruckelshaus v. Monsanto Co., 467 U.S. 986, 1002 (1984) (defining a trade secret as a "property right" because trade secrets are, among other things, assignable); Shelley v. Kraemer, 334 U.S. 1, 10 (1948) (observing that "among the civil rights intended to be protected from discriminatory state action by the Fourteenth Amendment are the rights to acquire, enjoy, own and dispose of property"); Moore v. Regents of the Univ. of Cal., 793 P.2d 479, 492 (Cal. 1990) (holding that a health statute that restricted the use and alienation of tissue "eliminates so many of the rights ordinarily attached to property that one cannot simply assume that what is left amounts to 'property' or 'ownership'"); White v. Brown, 559 S.W.2d 938, 940 (Tenn. 1977) (recognizing the hoary maxim that "the free alienation of property [is] one of the most significant incidents of fee ownership"); Hecht v. Superior Court ex rel. Kane, 20 Cal. Rptr. 2d 275, 283 (Ct. App. 1993) (holding, in part, that a man has a property right in his sperm because he has "decision making authority as to the use of his sperm for reproduction," and this control over its use and disposition is an "interest [that] is sufficient to constitute 'property'").

^{104.} See infra notes 148-51 and accompanying text.

Act appears inconsistent as to the concept of property it has adopted in modern patent law. The conflict between § 261 and § 154 means that the 1952 Patent Act does not clearly and plainly mandate the exclusion concept of patents. To construe the 1952 Patent Act as unequivocally requiring the exclusion concept of patents violates a basic canon of statutory construction by focusing solely on § 154 without regard for the structure of the Act as a whole.

In support of this conclusion, the Supreme Court recently emphasized in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*¹⁰⁶ that the 1952 Patent Act did not repeal nineteenth-century patent doctrines unless the statute expressly stated an intent to do so.¹⁰⁷ This is significant insofar as § 261 expressly re-codified the provisions from all of the earlier patent statutes, as well as the nineteenth-century case law, that patentees had the right to use and dispose of their property.¹⁰⁸ It was not the *Warner-Jenkinson* Court's intention to question the exclusion concept of patents, but its decision highlights a long-unrecognized tension within the 1952 Patent Act between its historically pregnant provisions and its modern provisions. *Warner-Jenkinson* concluded that it was improper to favor the modern provisions in the 1952 Patent Act simply because they are modern.

Even if one wishes to read the patent statutes more strictly, which is contrary to long-established judicial practice, ¹⁰⁹ the Supreme Court's recent decision in *eBay Inc. v. MercExchange, L.L.C.* has further undermined the claim that the exclusion concept of patents is mandated by § 154. ¹¹⁰ In *eBay*, the Court concluded that it is best to follow long-standing historical practices in resolving explicitly conflicting provisions of the 1952 Patent Act. ¹¹¹ Even more significant for our purposes, the statutory conflict at issue in *eBay* is analogous to the tension highlighted here between § 261 and § 154.

On one hand, seemingly clear and unambiguous provisions of the 1952 Patent Act state that a patent secures only the right to exclude

^{105.} See supra notes 93–94 and accompanying text (identifying canon of statutory construction prohibiting myopic appeals to single statutory provisions).

^{106. 520} U.S. 17 (1996).

^{107.} See id. at 26. An example of such an express repeal in the 1952 Patent Act is in § 103, which contains a sentence that specifically negates an earlier Supreme Court decision. See Graham v. John Deere Co., 383 U.S. 1, 15 (1966) ("It also seems apparent that Congress intended by the last sentence of § 103 to abolish the test it believed this Court announced in the controversial phrase 'flash of creative genius,' used in Cuno Engineering Corp. v. Automatic Devices Corp., [314 U.S. 84 (1941)].").

^{108.} See infra Part III.A.

^{109.} See Mossoff, supra note 86, at 998–1009 (detailing expansive construction of early patent statutes by antebellum courts); see also Diamond v. Diehr, 450 U.S. 175, 181–84 (1981) (adopting expansive construction of patent statutes to affirm computer programs as patentable subject matter).

^{110. 126} S. Ct. 1837 (2006).

^{111.} Id. at 1839-41.

and that infringers are liable for breaching this right to exclude. 112 These statutory provisions suggest that the only proper remedy for patent infringement is an injunction — the classic "property rule" remedy. 113 As the *eBay* Court noted: "According to the Court of Appeals [for the Federal Circuit], this statutory right to exclude alone justifies its general rule in favor of permanent injunctive relief." 114 On the other hand, another provision of the 1952 Patent Act provides that courts "may grant injunctions in accordance with the principles of equity" on a finding of infringement. 115 This appears to inject traditional notions of equitable discretion into a court's determination of whether to issue an injunction against an infringer. More important, this provision seems to sanction a court denying an injunction, which many believe is the only remedy for a breach of a right to exclude. 116

In resolving this conflict within the 1952 Patent Act, the *eBay* Court concluded that the "long tradition of equity practice" within patent law should prevail. The Court held that "injunctive relief... must be exercised consistent with *traditional principles* of equity, in patent disputes no less than in other cases governed by such standards." Again, the *eBay* Court did not concern itself with the validity of the exclusion concept of patents, but as with the *Warner-Jenkinson* decision ten years earlier, the *eBay* decision nevertheless undermines attempts by scholars and lawyers to validate the exclusion concept of patents by citing solely to the exclusion provisions of the modern patent statutes. The Supreme Court repeatedly reminds the Federal Circuit and the patent law community that the American patent system reflects not only modern, but also historical influences.

^{112.} See 35 U.S.C. § 154 (2006) (stating that a patent secures only "the right to exclude others from making, using, offering for sale, or selling the invention"); id. § 271 (providing that "whoever without authority makes, uses, offers to sell, or sells any patented invention... infringes the patent").

^{113.} See generally Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972) (setting forth the now-famous property rule (injunction) and liability rule (damages) distinction).

^{114.} eBay, 126 S. Ct. at 1840.

^{115. 35} U.S.C. § 283.

^{116.} See, e.g., F. Scott Kieff, *IP Transactions: On the Theory & Practice of Commercializing Innovation*, 42 Hous. L. Rev. 727, 744 (2005) ("Concerning IP law, the commercialization theory discussed earlier shows how important it is to have IP subject matter protected by a property right backed up by a property rule. It is the credible threat of an injunction that allows IP to serve as a coordination beacon around which all the potential complementary users of the asset it protects can gather.").

^{117.} *eBay*, 126 S. Ct. at 1839 (quoting Weinberger v. Romero-Barcelo, 456 U.S. 305, 320 (1982)).

^{118.} *Id.* at 1841 (emphasis added). This was emphasized in even more strident terms in Chief Justice Roberts's concurrence, in which he maintained that nineteenth-century jurisprudence is determinative in defining the scope of patent rights today. *Id.* at 1841 (Roberts, C.J., concurring).

In sum, the exclusion concept of patents is neither necessary nor sufficient in defining patents as property. The exclusion concept is no more necessitated by the 1952 Patent Act than it is by the blocking patent phenomenon or the regulatory state argument. As of yet, there is no valid reason why patents must be conceptualized differently from land or other tangible property interests. The question asked earlier in this section remains unanswered: Why did the patent law community feel it necessary for Congress to "clarify" the nature of the patent right in § 154? Perhaps there is a deeper explanation for the universal acceptance of the exclusion concept of patents today. This inquiry will be explored in Part III.

III. REDISCOVERING LONG LOST RELATIONS: PROPERTY THEORY AND PATENT LAW

American property theory offers an explanation for why the exclusion concept of patents reigns supreme today. Of course, particular legal issues are not all reducible to a single theoretical explanation, but, as Professor Richard Epstein recently observed, a theoretical account of intellectual property helps "make sense of the system in its basic outlines." This foundational framework then orients scholars and judges toward "a set of guidelines that should help us deal with the second-order questions of filling in the details of the system." Professor Carol Rose has similarly observed that property theory both describes and justifies what it means to own something as a legal entitlement. 122

Ultimately, the relevant legal actors — whether legislators, judges, or both — give property theory its doctrinal traction by using it to create, modify, or eliminate the legal entitlements to which citizens may claim protection. ¹²³ For this reason, Professor Epstein con-

^{119.} See supra Part II.B.

^{120.} Epstein, supra note 51, at 827.

^{121.} Id.

^{122.} See Carol M. Rose, *Possession as the Origin of Property*, 52 U. CHI. L. REV. 73, 73 (1985) ("The law tells us what steps we must follow to obtain ownership of things, but we need a theory that tells us why these steps should do the job.").

^{123.} See, e.g., Penn Cent. Transp. Co. v. New York City, 438 U.S. 104, 127–28 (1978) (relying on Frank Michelman's scholarship in adopting "investment-backed expectations" as one of the legal tests in regulatory takings doctrine); Goldberg v. Kelly, 397 U.S. 254, 262 & n.8 (1970) (relying on Charles Reich's scholarship in extending constitutional protections to welfare entitlements as "property" under the Due Process Clause); Pierson v. Post, 3 Cai. 175 (N.Y. Sup. Ct. 1805) (relying on natural rights and natural law theories in justifying legal rule for claiming property in wild animals); 41 ANNALS OF CONG. 934 (1824) (proposing legislation extending patent protection to foreign citizens on the basis that "the right of the inventor is a high property; it is the fruit of his mind—it belongs to him more than any other property... and he ought to be protected in the enjoyment of it"); 41 ANNALS OF CONG. 936 (1824) (agreeing that the patent statutes should "protect the just rights of patentees" by securing "the property which an inventor has in that which is the

cludes, "[i]t is a mistake to dismiss these general arguments as hopelessly abstract or even wish-washy." Some of the doctrinal influences of the exclusion concept of patents will be explored in Part IV, but before this impact can be assessed, it is necessary to understand how the exclusion concept of patents arose despite the absence of a sound explanation of its validity.

Until recently, patent scholars and lawyers were not engaged in theoretical debates about the nature of property rights. As a result, they have been unaware of the fundamental role that patents played in the redefinition of property in land in the early twentieth century by the legal realists. Even scholars who specialize in real property and land use regulation have not recognized the degree to which Wesley Hohfeld, Felix Cohen, and others relied on patents and other intellectual property entitlements in redefining property in land as securing only the right to exclude. 125 Ultimately, this broader "exclusion concept of property" ¹²⁶ in land fed back into patent doctrine, as patent lawyers and jurists in the mid-twentieth century learned this realist property theory in law school and in scholarship and reflexively applied it to their understanding of patents as property. 127 Since these edifying cross-currents of intellectual influence between the exclusion concept of property and the exclusion concept of patents have never been discussed before, this Part is devoted to uncovering this important historical connection between tangible property theory and patent law.

This intellectual history will be explored in several steps. Section A will briefly explain how early American property theory defined patents in terms of the substantive rights of possession, use, and disposition. It will then examine how nineteenth-century courts used this theory to create core aspects of American patent law, such as defining and securing conveyance rights in what is now known as patent exhaustion doctrine. Section B will further explain how this early property theory was toppled by the legal realists at the turn of the twentieth century. In their work on property, the legal realists were concerned only with land, but, as will be shown, they relied on patents as key

product of his own genius," but rejecting the proposed legislation for other policy reasons); Mossoff, *supra* note 15, at 377 (discussing how property theories "are important because they have had, and will continue to have, a significant impact on the definition and application of our legal rules concerning property").

^{124.} Epstein, supra note 51, at 827.

^{125.} See infra Part III.B.

^{126.} See Mossoff, supra note 15, at 375. In this earlier work, the Author referred to this conception of property as the "exclusion theory of property." It is now identified as the "exclusion concept of property" to better emphasize that this is a descriptive or positive account of property, not a normative justification for property.

^{127.} See id. at 414 (noting that "the exclusion theorists have sought to rescue intellectual property in much the same way that they have defended the traditional concept of property," as they maintain that "intellectual property shares with the [tangible property] concept the essential right to exclude").

evidence for their arguments that the exclusion concept of property is the only valid definition of property entitlements in land. Section C will then describe how the legal realists' revolution in real property eventually came full circle, as twentieth-century patent scholars and lawyers unconsciously adopted the legal realists' exclusion concept of property in land and applied it to patent law. Ultimately, the moral of this story is that the conceptual analysis of legal rights, whether tangible property rights, patent rights, or any other rights, is not merely the domain of the philosopher. Lawyers, jurists, and legal scholars also apply these fundamental conceptual frameworks in crafting real world legal doctrine.

A. Exclusive Use-Rights and Patent Licensing Doctrines in Early American Patent Law

A brief sketch of the intellectual history of early American property theory is necessary to revive this now-forgotten intellectual context, because it was this historical context within which nineteenth-century legislatures and courts defined patents as property rights. This historical context is also important insofar as the Supreme Court consistently claims fealty to the substantive content of historical patent doctrine, citing nineteenth-century patent case law as determinative precedent in many of its recent patent law decisions. Such citations underscore the Court's uncontroversial observation in 1999 that "[p]atents . . . have long been considered a species of property."

This observation is confirmed by all of the pre-twentieth-century patent statutes, which defined patents as securing, in the words of the 1790 Patent Act, the "exclusive right and liberty of making, constructing, using and vending" an invention. ¹³⁰ Today, scholars and jurists do

^{128.} See, e.g., Quanta Computer, Inc. v. LG Elecs., Inc., 128 S. Ct. 2109, 2115 (2008) (citing nineteenth-century case law as necessary for understanding "[t]he longstanding doctrine of patent exhaustion"); KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1734 (2007) (recognizing that modern nonobviousness doctrine follows "the logic of the earlier decision in Hotchkiss v. Greenwood, [52 U.S. (11 How.) 248 (1851)], and its progeny"); eBay Inc. v. MercExchange, L.L.C., 126 S. Ct. 1837, 1841 (2006) (Roberts, C.J., concurring) (observing that "historical practice" sets the positive baseline "[w]hen it comes to discerning and applying" such patent doctrines today); Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 738 (2002) (affirming the doctrine of prosecution history estoppel in patent law given, in part, how courts construed this equitable defense in the nineteenth century); Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 26 n.3 (1997) (maintaining that nineteenth-century court decisions creating the doctrine of equivalents are controlling today despite the litigant's argument that Congress's enactment of the 1952 Patent Act impliedly repealed these decisions).

^{129.} Fla. Prepaid Postsecondary Educ. Expense Bd. v. Coll. Sav. Bank, 527 U.S. 627, 642 (1999).

^{130.} Patent Act of 1790, ch. 7, § 1, 1 Stat. 109, 110 (repealed 1793); see also supra notes 79–80 and accompanying text (quoting similar language in patent statutes adopted in 1793, 1836 and 1870, and in an early court opinion).

not read such language as defining patents as property rights. 131 In the eighteenth and nineteenth centuries, however, this statutory definition reflected a hoary concept of property — a political and legal right that comprised the rights of possession, use, and disposition. 132 At that time, these substantive rights constituted the essential conceptual content of property. These were the constituent elements — especially the right to use — from which this moral, political and legal right arose. 133 As the father of natural rights theory, Hugo Grotius, declared, "liberty in regard to actions is equivalent to dominium in material things,"134 a principle that Locke followed in his own "mixing labor" account of property. 135 Thus the now familiar legal definition of property: "Property is the exclusive right of possessing, enjoying, and disposing of a thing." In 1856, the New York Court of Appeals explained: "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."137

^{131.} See infra notes 235-37 and accompanying text.

^{132.} See WILLIAM BLACKSTONE, 1 COMMENTARIES *134 ("The third absolute right... is that of property: which consists in the free use, enjoyment, and disposal of all his acquisitions..."); JOHN LOCKE, TWO TREATISES OF GOVERNMENT 350 (Peter Laslett ed., Cambridge Univ. Press 1988) (1690) (claiming that people enter into civil society "for the mutual Preservation of their Lives, Liberties and Estates, which I call by the general Name, Property"); see also James Madison, Property, NAT'L GAZETTE, Mar. 29, 1792, reprinted in JAMES MADISON, WRITINGS 515 (Jack N. Rakove ed., Literary Classics of the United States 1999) (arguing that a person has "property in the free use of his faculties and free choice of the objects on which to employ them").

^{133.} See, e.g., WILLIAM BLACKSTONE, 2 COMMENTARIES *4 (noting that the common use "doctrine [is] well illustrated by Cicero, who compares the world to a great theatre, which is common to the public, and yet the place which any man has taken is for the time his own"); HUGO GROTIUS, DE JURE BELLI AC PACIS LIBRI TRES, 186 (Francis W. Kelsey trans., 1925) (1625) (discussing how the "universal" use-right in the state of nature meant that "whatever each had thus taken for his own needs another could not take from him except by unjust act"); HUGO GROTIUS, DE IURE PRAEDAE COMMENTARIUS 228 (Gwladys L. Williams & Walter H. Zeydel trans., Oxford at the Clarendon Press 1950) (quoting the Roman Stoic, Seneca, that in the beginning "all the way was open; The use of all things was a common right"); 2 SAMUEL PUFENDORF, DE JURE NATURAE ET GENTIUM 548 (C.H. Oldfather & W.A. Oldfather trans., Oxford at the Clarendon Press 1934) (1672) ("A common theatre is erected by a State for the use of its citizens. But if one citizen rather than another is to secure a seat for a performance, from which he cannot rightfully be removed by another, there is need of a corporal act, that is, of his occupying the seat.").

^{134.} RICHARD TUCK, NATURAL RIGHTS THEORIES: THEIR ORIGIN AND DEVELOPMENT 60 (1979) (quoting Hugo Grotius, *De Jure Praedae*).

^{135.} See LOCKE, supra note 132, at 288.

^{136.} McKeon v. Bisbee, 9 Cal. 137, 142 (1858); *see also* Vanhorne's Lessee v. Dorrance, 2 U.S. (2 Dall.) 304, 310 (1795) ("[T]he right of acquiring and possessing property, and having it protected, is one of the natural, inherent, and unalienable rights of man."); City of Denver v. Bayer, 2 P. 6, 6–7 (Colo. 1883) ("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"); 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 v. People, 13 N.Y. 378, 433 (1856))).

^{137.} Wynehamer, 13 N.Y. at 433.

The central rights of possession and use provided a conceptual framework for early American courts in which they grounded the normative principle that the law should secure to a property owner the fruits of his labors. ¹³⁸ Justice David Brewer invoked this conceptual foundation and its attendant normative principle when he argued that "[p]roperty is as certainly destroyed when the use that which is the subject of property is taken away.... for that which gives value to property, is its capacity for use." ¹³⁹ Informed by a conception of property as referring to the exclusive rights of possession, use, and disposition, courts relied heavily on the normative labor-desert principle throughout early American property law and used it often to justify protecting new species of intellectual property, such as trade secrets and trademarks. ¹⁴⁰

The central importance of these substantive property rights is best illustrated in the patent licensing doctrines developed by nineteenth-century courts, which sought to secure to patentees the essential rights of use and disposition of their property. As two prominent nineteenth-century commentators on property explained, a "right of property which arises from possession must therefore be a transmissible right." Accordingly, Justice Joseph Story wrote in 1824 for a unanimous Supreme Court that the patent statutes secured to an inventor "the absolute enjoyment and possession" in an invention "which is often of very great value." Writing for another unanimous Court

^{138.} See, e.g., Vanhorne's Lessee, 2 U.S. (2 Dall.) at 310 ("No man would become a member of a community, in which he could not enjoy the fruits of his honest labour and industry."); Hawes v. Gage, 11 F. Cas. 867, 867 (C.C.N.D.N.Y. 1871) (No. 6237) (noting that a patent is "property" because it secures for an inventor the right to "enjoy the fruits of his invention"); Clark Patent Steam & Fire Regulator Co. v. Copeland, 5 F. Cas. 987, 988 (C.C.S.D.N.Y. 1862) (No. 2866) ("Congress has wisely provided by law that inventors shall exclusively enjoy, for a limited season, the fruits of their inventions."); Amoskeag Mfg. Co. v. Spear, 2 Sand. 599, 606 (N.Y. Super. Ct. 1849) (explaining that if a plaintiff is denied an injunction in a trademark infringement case, "the [trademark] owner is robbed of the fruits of the reputation that he had successfully labored to earn").

^{139.} D.J. Brewer, Justice, U.S. Supreme Court, Protection of Private Property from Public Attack (June 23, 1891), *in* 10 GREEN BAG 2d 495, 503 (2007); *see also* Pumpelly v. Green Bay Co., 80 U.S. 166, 179 (1871) ("[T]here are numerous authorities to sustain the doctrine that a serious interruption to the common and necessary use of property may be . . . equivalent to the taking of it"); Austin v. Murray, 33 Mass. (16 Pick.) 121, 126 (1834) ("A by-law for the total restraint of one's [property] right, is void; as if a man be barred of the use of his land."); *In re* Jacobs, 98 N.Y. 98, 105 (1885) ("Property . . has no value unless it can be used. Its capability for enjoyment and adaptability to some use are essential characteristics and attributes without which property cannot be conceived").

^{140.} See Mossoff, supra note 15, at 413–24 (discussing evolution of trade secret and trademark doctrines in nineteenth century); see also Mark P. McKenna, The Normative Foundations of Trademark Law, 82 NOTRE DAME L. REV. 1839 (2007) (discussing evolution of trademark doctrine in nineteenth century); Mossoff, supra note 86 (discussing influence of natural rights philosophy in defining basic patent doctrines in the early American Republic).

^{141.} Frederick Pollock & Robert Samuel Wright, An Essay on Possession in the Common Law 93 (1888).

^{142.} Ex parte Wood, 22 U.S. (9 Wheat.) 603, 608 (1824).

just nine years later, Justice John McLean stated the point even more succinctly: The law secured to a patentee "for a limited period . . . the profits arising from the sale of the thing invented." ¹⁴³

Under the influence of the exclusion concept of patents, modern scholars and courts have dismissed these judicial statements as "confusion" or "dicta," but this is an anachronistic reading of the historical record. The federal courts were following the express language of the patent statutes in force at that time, which, in accordance with the then-dominant concept of property, defined patents as property in terms of the essential rights of possession, use and disposition. In addressing an 1823 dispute concerning the distribution of an estate, the Pennsylvania Supreme Court observed that "property, without the power of use and disposition, is an empty sound."¹⁴⁵ As property, patents deserved the same legal security in their rights of use and disposition. Accordingly, a federal court instructed a jury in an 1862 patent infringement trial that "Congress has wisely provided by law that inventors shall exclusively enjoy, for a limited season, the fruits of their inventions.... [by] authorizing them alone to manufacture, sell, or practice what they have invented." A decade later, another court observed that "the rights conferred by the patent law, being property, have the incidents of property, and are capable of being transmitted by descent or devise, or assigned by grant." ¹⁴⁷

The essential protection of the rights of use and disposition in patented inventions is further illustrated in an anonymous brief essay published in the *Federal Cases* reporter. This essay contrasted the personal privileges in English patents from the property rights in American patents, and, unsurprisingly, the principal difference was the right of disposition. English patents were a mere "grant by the crown" and thus "inalienable unless power to that effect is given by the crown." American patents, however, were "defined as an incorporeal chattel, which the patent impresses with all the characteristics of personal estate," including the right to dispose of this incorporeal property. As another antebellum federal court noted, "assignees [of a patent] become the owners of the discovery, with a perfect title,"

^{143.} Shaw v. Cooper, 32 U.S. (7 Pet.) 292, 320 (1833).

^{144.} See supra notes 90-91 and accompanying text.

^{145.} In re Flintham's Appeal, 11 Serg. & Rawle 16, 24 (Pa. 1823).

^{146.} Clark Patent Steam & Fire Regulator Co. v. Copeland, 5 F. Cas. 987, 988 (C.C.S.D.N.Y. 1862) (No. 2866).

^{147.} Carew v. Boston Elastic Fabric Co., 5 F. Cas. 56, 57 (C.C.D. Mass. 1871) (No. 2398).

^{148.} See 3 F. Cas. 85 (following Belding v. Turner, 3 F. Cas. 84 (C.C.D. Conn. 1871) (No. 1243)).

^{149.} *Id*.

^{150.} *Id*.

and thus "[p]atent interests are not distinguishable, in this respect, from other kinds of property." ¹⁵¹

It is unsurprising then that the phrase "intellectual property" was first used in an 1845 patent case in which Justice Levi Woodbury, riding circuit, instructed a jury that patents protect the same rights of use and disposition as do property rights in land and chattels:

[A] liberal construction is to be given to a patent, and inventors sustained and only in this way can we protect intellectual property, the labors of the mind, [which are] production and interests as much as a man's own, and as much as the fruit of his honest industry, as the wheat he cultivates, or the flocks he rears. 152

Justice Woodbury went on to explain that patentees were not monopolists, as "the design [of the patent system] is to encourage genius in advancing the arts, through science and ingenuity, by protecting its productions of what did not before exist." In this way, an inventor was encouraged to exercise his inventive labors in creating a new invention. The law then secured "the fruit of his honest industry" by protecting the sale of his patented invention in the same way the law protected the wheat or flock that the farmer sells at market. 154

Early American courts recognized the conceptual linkage between patents and land in more than just their descriptive and normative rhetoric. They expressly linked patents to real property by incorporating common law real property doctrines into nineteenth-century patent jurisprudence. In doing so, courts adopted two doctrinal concepts from real property law — assignment and license to classify a patentee's exercise of his right of disposition. Since the inception of

^{151.} Carr v. Rice, 5 F. Cas. 140, 146 (C.C.S.D.N.Y. 1856) (No. 2440).

^{152.} Davoll v. Brown, 7 F. Cas. 197, 199 (C.C.D. Mass. 1845) (No. 3662); see also Adam Mossoff, Patents as Constitutional Private Property: The Historical Protection of Patents Under the Takings Clause, 87 B.U. L. REV. 689, 719 n.160 (2007) (discussing how the Davoll case is the first use of the phrase "intellectual property").

^{153.} Davoll, 7 F. Cas. at 199.

^{154.} Id.

^{155.} See Mossoff, supra note 86, at 989–1009 (discussing substantial conceptual and doctrinal connections between patents and real property law in nineteenth-century court decisions and legislation).

^{156.} See Ernst v. Conditt, 390 S.W.2d 703, 707 (Tenn. Ct. App. 1964) ("The general rule as to the distinction between an assignment of a lease and a sublease is an assignment conveys the whole term, leaving no interest nor reversionary interest in the grantor or assignor."); 3 JAMES KENT, COMMENTARIES ON AMERICAN LAW 583 (George F. Comstock ed., 11th ed. 1866) ("[A] license is an authority to do a particular act, or series of acts, upon another's land, without possessing any estate therein."). See generally JON W. BRUCE & JAMES W. ELY, JR., THE LAW OF EASEMENTS AND LICENSES IN LAND (rev. ed. 2008) (discussing the creation and transfer of easements and licenses).

the federal patent system in 1790, courts have employed these real property concepts to define the exact quantum of interest conveyed by a patentee to a third party.¹⁵⁷ To this day, the Federal Circuit follows this longstanding judicial practice of referring to a patentee's right of disposition in terms of either an "assignment" or "license," albeit without understanding the provenance of this usage in common law real property doctrine.

Nineteenth-century courts were not alone in looking to the common law to define the nascent patent doctrines that secured to patentees their rights of use and disposition. In its first patent statutes, Congress created writing and recordation requirements for patent conveyances, ¹⁵⁹ adopting a legal norm from real property that ensured proper notice of conveyances and of any use restrictions imposed by a grantor in a conveyance instrument. ¹⁶⁰ Courts have long regarded notice as an essential requirement in determining whether contractual covenants that impose use restrictions against a grantee will be converted into property interests that "run with the land" to successors or assigns. ¹⁶¹ In this regard, the recordation requirements in the patent statutes were significant because patents, as intellectual property rights, lack the rivalrous physical occupation that can signal owner-

157. See Potter v. Holland, 19 F. Cas. 1154, 1156 (C.C.D. Conn. 1858) (No. 11.329) ("It is therefore necessary to determine what is meant by the terms assignee . . . and assignment . . . as they are used in patent law. An assignment, as understood by the common law, is a parting with the whole of property. 2 Black, 326."); see also Littlefield v. Perry, 88 U.S. (21 Wall.) 205, 223 (1874) ("A mere licensee cannot sue strangers who infringe. In such case redress is obtained through or in the name of the patentee or his assignee."); Moore v. Marsh, 74 U.S. (7 Wall.) 515, 520 (1868) ("An assignee is one who holds, by a valid assignment in writing, the whole interest of a patent, or any undivided part of such whole interest, throughout the United States."); McClurg v. Kingsland, 42 U.S. (1 How.) 202, 206 (1843) (referring to a patent conveyance as "an express license or grant . . . giving the defendants a right to the continued use of the invention"); Suydam v. Day, 23 F. Cas, 473, 474 (C.C.S.D.N.Y. 1846) (No. 13,654) (distinguishing between "an assignee of a patent [who] must be regarded as acquiring his title to it, with a right of action in his own name," and "an interest in only a part of each patent, to wit, a license to use"); Whittemore v. Cutter, 29 F. Cas. 1120, 1120-21 (C.C.D. Mass. 1813) (No. 17,600) (recognizing there is "no assignment of the patent right" in the patentee's conveyance, and thus "[t]he instrument could only operate as a covenant or license for the exclusive use of the patent right in certain local districts").

158. See, e.g., In re Cybernetic Servs., Inc., 252 F.3d 1039, 1052 (9th Cir. 2001) ("[A] security interest in a patent that does not involve a transfer of the rights of ownership is a 'mere license'..."); Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1551 (Fed. Cir. 1995) ("A conveyance of legal title by the patentee... is an assignment and vests the assignee with title in the patent, and a right to sue infringers.").

159. See Patent Act of 1836, ch. 357, § 11, 5 Stat. 117, 121 (repealed 1870) (requiring an assignment to be "[recorded] in the Patent Office within three months from the execution thereof"); Patent Act of 1793, ch. 11, § 4, 1 Stat. 318, 322 (repealed 1836) (requiring an assignee to "record the said assignment, in the office of the Secretary of State").

160. See An Act for Prevention of Frauds and Perjuries (Statute of Frauds), 1677, 29 Car. 2, c. 3, §§ 3–4 (Eng.) (abolishing livery of seisin and requiring written formalities for conveyances of real property or any interests therein).

161. See Joseph William Singer, Introduction to Property 231–34 (2001) (discussing notice requirement in restrictive covenant doctrine).

ship of land to third parties.¹⁶² In mandating that conveyances of patent rights be written and that these instruments be recorded with the federal government,¹⁶³ Congress expressly adopted common law rules governing land conveyances in designing the legal framework in which patentees exercised their own rights of use and disposition.

Nineteenth-century courts took seriously the notice requirement that was implemented through the writing and recordation provisions enacted by Congress. They did so because patents are property—securing, in the words of a unanimous Supreme Court in 1870, "the exclusive right and liberty to make and use and vend to others to be used their own inventions." Also, just as the Federal Circuit continues to use the terms "assignment" and "license" without realizing that these are common law concepts from real property doctrine, for Congress reenacted the recordation requirement in the 1952 Patent Act. Further revealing the unconscious influence of common law real property doctrine in modern patent law, Congress placed the recordation requirement in § 261—the same section in which it expressly states that patents are property.

In addition to adopting real property rhetoric, concepts, and notice requirements in patent law, nineteenth-century courts exercised substantial discretion in crafting the specific doctrines implementing the broad statutory declarations that a patent secured the right to use and dispose of an invention. In so doing, courts developed patent doctrines

^{162.} See, e.g., Sanborn v. McLean, 206 N.W. 496 (Mich. 1925) (holding that a purchaser is accountable to constructive notice of restrictive covenants governing a planned residential development that contains similarly improved lots); Fain v. Garthright, 5 Ga. 6, 14 (1848) ("[I]f a grantee enter under a deed not executed in conformity to law, believing the title to be good, his possession is adverse.").

^{163.} See, e.g., Moore v. Marsh, 74 U.S. (7 Wall.) 515, 521 (1868) ("Grants, as well as assignments, must be in writing, and they must convey the exclusive right, under the patent, to make and use, and vend to others to be used, the thing patented"); Herbert v. Adams, 12 F. Cas. 1, 1 (C.C.D. Mass. 1825) (No. 6394) ("[A]fter an assignment is recorded, the assignee stands in the place of the original inventor, both as to right and responsibility.").

^{164.} See Heaton-Peninsular Button-Fastener Co. v. Eureka Specialty Co., 77 F. 288, 291 (6th Cir. 1896) (holding that a licensee and its wholesaler are both liable to a license restriction because the "jobber buys and sells subject to the restriction, and both have notice of the conditional character of the sale, and of the restriction on the use"); Am. Cotton-Tie Supply Co. v. Bullard, 1 F. Cas. 625, 629 (C.C.S.D.N.Y. 1879) (No. 294) ("[W]here pins, nails, screws, or buckles are sold, if some of them are sold with a restricted and some with an unrestricted title, there are no means of identification which enable the purchaser, after they have passed into the market and common use, to distinguish the articles licensed or restricted in their use from those absolutely sold. In the case of articles of that description, the patentee may fairly be presumed to have received his royalty when he parted with the possession of the articles and allowed them to go into common and general use."); cf. Adams v. Burke, 84 U.S. (17 Wall.) 453, 456–57 (1873) ("Whatever, therefore, may be the rule when patentees subdivide territorially their patents, as to the exclusive right to make or to sell within a limited territory... when they are once lawfully made and sold, there is no restriction on their use to be implied for the benefit of the patentee or his assignees or licensees.").

^{165.} Seymour v. Osborne, 78 U.S. (11 Wall.) 516, 533 (1870).

^{166.} See supra note 158 and accompanying text.

^{167.} See 35 U.S.C. § 261 (2006).

mirroring common law doctrines that secured to landowners the right to control the downstream use of their property by third parties. ¹⁶⁸ In patent law, such doctrines protected patentees in imposing a litany of manufacturing, sale, and use restrictions on their licensees. ¹⁶⁹ Such license restrictions were deemed to be conceptually and doctrinally identical to a landowner's imposition of a use restriction in conveying a limited "title" to a third party.

For example, Judge Ingersoll explained in an 1857 dispute involving a patent on vulcanized rubber obtained by Charles Goodyear, the eponymous source of the modern tire company:

If [a] licensee uses the patented invention beyond the limits of the license or grant, or in a way not authorized by the license or grant, then there has been a violation of a right secured to the patentee under a law of the United States giving to him the *exclusive right to use* the thing patented ¹⁷¹

^{168.} See infra notes 177-88 and accompanying text.

^{169.} See, e.g., E. Bement & Sons v. Nat'l Harrow Co., 186 U.S. 70, 88-91 (1902) (upholding sale price restriction in license on basis of nineteenth-century case law affirming a patentee's rights to do same); Am. Cotton-Tie Co. v. Simmons, 106 U.S. 89, 91-95 (1882) (enforcing license restriction prohibiting re-use of a patented cotton-bale tie, on which the patented products were stamped "Licensed to use once only"); Providence Rubber Co. v. Goodyear, 76 U.S. (9 Wall.) 788, 799-800 (1869) (enforcing against the defendants the express sale and use restrictions imposed in a license); Chaffee v. Boston Belting Co., 63 U.S. (22 How.) 217, 220 (1859) (recognizing by "the terms of the instrument" written by the patentee that "it was understood that the right and license so conveyed was to apply to any and all articles substituted for leather, metal, and other substances, in the use or manufacture of machines or machinery"); Farrington v. Gregory, 8 F. Cas. 1088, 1089 (C.C.E.D. Mich. 1870) (No. 4688) (noting that license contained geographic restriction that limited the licensee's "right to use and sell machines in Calhoun and Kalamazoo counties, in the state of Michigan"); Day v. Union India-Rubber Co., 7 F. Cas. 271, 276 (C.C.S.D.N.Y. 1856) (No. 3691) ("This right to use is protected, continued and secured, only to the extent of the respective interests of such assignees and grantees therein; and, if the right to use before the extension was limited to a single state, county, town, or smaller district, it continues, under this clause, subject to the same limitations. If the right was to use only one, two, four, six, or any other number of machines, within a particular district, the limit in number and restriction of place still continues.").

^{170.} See Heaton-Peninsular Button-Fastener Co. v. Eureka Specialty Co., 77 F. 288, 290 (6th Cir. 1896) (recognizing under the terms of the license that "[t]he buyer of the machine undoubtedly obtains the title to the materials embodying the invention, subject to a reverter in case of violation of the conditions of the sale"); Am. Cotton-Tie Supply Co. v. Bullard, 1 F. Cas. 625, 629 (C.C.S.D.N.Y. 1879) (No. 294) (recognizing that patented products may be sold in which "a restriction may easily be attached, or where a license to use only may be sold, unaccompanied with any title or accompanied with a restricted title"); cf. Mountain Brow Lodge No. 82, Indep. Order of Odd Fellows v. Toscano, 64 Cal. Rptr. 816, 818 (Ct. App. 1967) (recognizing long-standing common law distinction between valid defeasible fee simples that restricted land use, such as a fee simple subject to condition subsequent, and an invalid restraint on alienation).

^{171.} Goodyear v. Union India Rubber Co., 10 F. Cas. 726, 727 (C.C.S.D.N.Y. 1857) (No. 5586) (emphasis added).

Several years earlier, Charles Goodyear was embroiled in another patent licensing dispute in which the conveyance instrument contained clauses that governed the use and conveyance of the patented invention. ¹⁷² In these and other cases, courts upheld without comment the various use and sale restrictions imposed by Goodyear and other patentees on their licensees. By 1874, Justice Woodruff, riding circuit, could safely declare that "[i]t is clear that the patentee may grant the right to use within any specified place, town, city or district, and he may make such right of use exclusive; and I deem it no less clear that he may limit the right to manufacture for such use." ¹⁷³

It is important to recognize that the rights of use and disposition did more than provide nineteenth-century courts with a descriptive framework to explain why patentees could engage in restrictive licensing practices. The concept of property that comprised these substantive rights also explained why courts created the doctrinal limits that prevented patentees from abusing their property entitlements. As the Supreme Court stated in its 1852 decision in *Bloomer v. McQuewan*, when a patentee sells a product covered by its patent without restriction, the product "passes to the hands of the purchaser, [and thus] it is no longer within the limits of the [patent] monopoly." Or, in the words of a lower federal court in 1843, the patented "product, so soon as it is sold, mingles with the common mass of property, and is only subject to the general laws of property." To wit, an outright, unrestricted conveyance of a patented product exhausts the patentee's claims over its further use by the purchaser.

Although the *Bloomer* Court's creation of the exhaustion doctrine was initially framed in terms of limiting the patent "monopoly," the subsequent evolution of this important nineteenth-century doctrine reflected the courts' understanding that patents were conceptually equivalent to common law property entitlements in land. In a conveyance of real property, for instance, if a deed does not contain the necessary words of limitation defining the precise estate, then common law courts created a default rule that the interest conveyed is a fee simple absolute. Thus, a conveyance "to A" creates a fee simple absolute in Blackacre, but a conveyance "to A so long as she does not use

^{172.} See Day v. Candee, 7 F. Cas. 230, 234 (C.C.D. Conn. 1853) (No. 3676).

^{173.} Dorsey Revolving Harvester Rake Co. v. Bradley Mfg. Co., 7 F. Cas. 946, 947 (C.C.N.D.N.Y. 1874) (No. 4015). In this case, Justice Woodruff was faced with a patent infringement action involving the sale of patented goods in a foreign country in violation of a license agreement. *Id.* Justice Woodruff explained the law as follows: "I know of no reason, in law or in equity, why, if [the patentee] give[s] to another a right to make, or to make and sell, he is not at full liberty to retain to himself the advantage and profit of competing in foreign markets, by retaining the exclusive right to make and sell for export or use in other countries" *Id.*

^{174.} Bloomer v. McQuewan, 55 U.S. (14 How.) 539, 549 (1852).

^{175.} Boyd v. Brown, 3 F. Cas. 1095, 1096 (C.C.D. Ohio 1843) (No. 1747).

^{176.} Bloomer, 55 U.S. (14 How.) at 549.

alcohol on Blackacre" creates a fee simple determinable with a future interest in the grantor (a "possibility of revertor"). The rights to use and dispose of one's property meant that one had the freedom to restrict uses by successors-in-interest within the constraints imposed by either public policy or the police power. Such restrictions, however, had to be expressly adopted by the property owner and clearly conveyed to the purchaser. In the absence of restrictions, courts rejected landowners' attempts to enforce alleged restrictive covenants and other servitudes given the lack of notice to successors-in-interest. The default rule in real property law was that, absent any express terms limiting an estate interest conveyed to a third party, a subsequent property owner had the same rights to possess, use, and dispose of the property as the original owner.

In accordance with this default rule governing conveyances of land, nineteenth-century courts concluded that, if a patentee did not impose any express, written restrictions in a license, then the conveyance was absolute in terms of the property right received by the purchaser. For instance, Circuit Justice Robert Grier explained in 1861 that, "unless he bind himself by covenants to restrict his right of making and vending certain articles" under a patent, "[e]very person who pays the patentee for a license to use his process becomes the owner of the product, and may sell it to whom he pleases, or apply it to any purpose "¹⁸⁰ A few years later, the Supreme Court held that if a

^{177.} See, e.g., E. Bement & Sons v. Nat'l Harrow Co., 186 U.S. 70, 90–91 (1902) (discussing police power and common carrier restrictions on conveyances of patent rights); Patterson v. Kentucky, 97 U.S. 501, 505 (1878) ("[T]he right conferred upon the patentee and his assigns to use and vend the corporeal thing or article, brought into existence by the application of the patented discovery, must be exercised in subordination to the police regulations which the State [had] established by the statute . . . ").

^{178.} See supra note 161 and accompanying text.

^{179.} See Mitchell v. Hawley, 83 U.S. (16 Wall.) 544, 548 (1872) (noting the default rule in patent law that "[p]urchasers of the exclusive privilege of making or vending the patented machine hold the whole or a portion of the franchise which the patent secures, depending upon the nature of the conveyance").

^{180.} Washing Mach. Co. v. Earle, 29 F. Cas. 332, 334 (C.C.E.D. Pa. 1861) (No. 17,219); see also Bement, 186 U.S. at 91 ("[T]he general rule is absolute freedom in the use or sale of rights under the patent laws of the United States. . . . [W]ith few exceptions, . . . any conditions which are not in their very nature illegal ..., [and] imposed by the patentee and agreed to by the licensee for the right to manufacture or use or sell the article . . . will be upheld by the courts."); Mitchell, 83 U.S. (16 Wall.) at 547 ("[A] patentee, when he has himself constructed a machine and sold it without any conditions, or authorized another to construct, sell, and deliver it, or to construct and use and operate it, without any conditions, and the consideration has been paid to him for the thing patented, the rule is well established that the patentee must be understood to have parted to that extent with all his exclusive right, and that he ceases to have any interest whatever in the patented machine so sold and delivered or authorized to be constructed and operated."); Featherstone v. Ormonde Cycle Co., 53 F. 110, 111 (C.C.S.D.N.Y. 1892) ("It is well settled that the unrestricted sale of a patented article by the owner of the patent conveys to the purchaser the right of unrestricted ownership "); Holiday v. Mattheson, 24 F. 185, 185 (C.C.S.D.N.Y. 1885) ("When the [patent] owner sells an article without any reservation respecting its use, . . . the purchaser acquires the whole right of the vendor in the thing sold.").

patentee failed to use restrictive covenants in a conveyance instrument, then a licensee or end-user received "an absolute and unrestricted right to use" the patented invention. Since ownership means "full dominion over the property," the Court explained, the absence of restrictive covenants or external legal restraints meant that a property owner had a full right to use and dispose of his possessions: land, chattels, or patented inventions. The shades of influence of common law property rights in land on nineteenth-century patent doctrine are unmistakable. 183

Patent exhaustion doctrine was thus built on a conceptual foundation that maintained that all property owners — patentees, licensees, and end-users — had the right to use and dispose of their property, barring "explicit and unequivocal restrictions as to the time, or place, or manner of using the [patented] article." This was the default rule designed into nineteenth-century legal doctrine governing both land and intellectual property rights. Without notice of an express restriction imposed by a grantor, courts refused to enforce restrictive covenants against patent licensees, 185 just as they did in cases involving covenants governing the use of land. 186 They also prevented patentees from pursuing infringement claims against innocent downstream purchasers who had no notice of a breached restriction by a licensee. On the basis of the definition of patents as property, nineteenth-century courts and legislatures crafted a legal default rule that secured to inventors strong licensing rights, guaranteeing that a patentee "may

^{181.} Bloomer v. Millinger, 68 U.S. (1 Wall.) 340, 350 (1863).

^{182.} *Id.* ("When the [assignee] had purchased the right to construct the machines and operate them during the lifetime of the patent as then existing, and had actually constructed the machines under such authority, and put them in operation, he had then acquired full dominion over the property of the machines, and an absolute and unrestricted right to use and operate them until they were worn out.").

^{183.} See WILLIAM BLACKSTONE, 2 COMMENTARIES *2 ("There is nothing which so generally strikes the imagination, and engages the affections of mankind, as the right of property; or that sole and despotic dominion which one man claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe."); see also Mossoff, supra note 152, at 719 ("[I]t was common for nineteenth-century courts to draw doctrinal and policy connections between traditional, tangible property rights and patents.").

^{184.} Curtiss Aeroplane & Motor Corp. v. United Aircraft Eng'g Corp., 266 F. 71, 77 (2d Cir. 1920) (explaining historical treatment of patent exhaustion doctrine).

^{185.} See supra notes 162–65 and accompanying text.

^{186.} See supra note 161 and accompanying text.

^{187.} In rejecting an infringement claim against an end-user by a disgruntled patentee, Justice Grier spelled out the doctrinal implications of the liberty secured in use-rights in the earlier substantive conception of property: "If his licensees do not perform their agreements, his remedy is by action against them on his covenants, and not by recourse to a chancellor to restrain third persons who have purchased [the patented product] from using it, when it is theirs, for any purpose they please." Washing Mach. Co. v. Earle, 29 F. Cas. 332, 334 (C.C.E.D. Pa. 1861) (No. 17,219); cf. Adams v. Burke, 84 U.S. (17 Wall.) 453, 456 (1873) (rejecting patentee's infringement claim against a purchaser who breached a use restriction imposed on the licensee who sold the patented product to third parties).

grant licenses to whom he wants, and restrict the license as to time, territory, and purpose." ¹⁸⁸

B. The Legal Realists' Use of Patents in Reconceptualizing Property in Land

The fountainhead of exhaustion doctrine — the historical definition of patents as property in the same conceptual terms as land and other tangible property interests — is now lost to scholars and courts because of their embrace of the exclusion concept of patents. Yet the provenance of the exclusion concept of patents is found not in patent law, but in the legal realists' reconceptualization of property in land. Scholars recognize that the legal realists revolutionized the law at the turn of the twentieth century, ¹⁸⁹ especially property law. ¹⁹⁰ Inspired by Wesley Hohfeld's reconceptualization of legal rights into analytically distinct "jural relations," ¹⁹¹ the legal realists redefined real property as comprising only a set of "social relations." ¹⁹² Thus, all first-year law

^{188.} Am. Lecithin Co. v. Warfield Co., 105 F.2d 207, 212 (7th Cir. 1939) (citations to nineteenth-century case law omitted).

^{189.} See, e.g., AMERICAN LEGAL REALISM (William W. Fisher III et al. eds., 1993); LAWRENCE M. FRIEDMAN, A HISTORY OF AMERICAN LAW 688–89 (2d ed. 1985); Brian Leiter, American Legal Realism, in The Blackwell Guide to the Philosophy of Law and Legal Theory 50 (Martin P. Golding & William A. Edmundson eds., 2005).

^{190.} See Gregory S. Alexander, Commodity & Propriety: Competing Visions of Property in American Legal Thought 1776–1970, at 311–51 (1997); Eric R. Claeys, Takings, Regulations, and Natural Property Rights, 88 Cornell L. Rev. 1549, 1604–44 (2003); Thomas W. Merrill & Henry E. Smith, What Happened to Property in Law and Economics?, 111 Yale L.J. 357, 364–66 (2001); Adam Mossoff, What Is Property? Putting the Pieces Back Together, 45 Ariz. L. Rev. 371, 372–74 (2003).

^{191.} Hohfeld, supra note 25, at 28-33.

^{192.} Cohen, *supra* note 27, at 361–63; *see also* RESTATEMENT (FIRST) OF PROP. ch. 1, introductory note (1936) ("The word 'property' is used in this Restatement to denote legal relations between persons with respect to a thing."); 1 RICHARD T. ELY, PROPERTY AND CONTRACT IN THEIR RELATION TO THE DISTRIBUTION OF WEALTH 96 (1914) ("The essence of property is in the relations among men arising out of their relations to things.") (emphasis omitted); Wallace H. Hamilton & Irene Till, *Property, in* 12 ENCYCLOPAEDIA OF THE SOCIAL SCIENCES 528, 528 (Edwin R.A. Seligman & Alvin Johnson eds., 1934) (defining "property" as "a euphonious collocation of letters which serves as a general term for the miscellany of equities that persons hold in the commonwealth."); Wesley Newcomb Hohfeld, *Fundamental Legal Conceptions as Applied in Judicial Reasoning*, 26 YALE L.J. 710, 743 (1917) ("[T]he supposed single right *in rem* [in property] . . . really involves as many separate and distinct 'right—duty' relations as there are persons subject to a duty").

students now learn that property is merely a "bundle of rights" or, alternatively, a "bundle of sticks." ¹⁹⁴

The problem was that the legal realists succeeded in fragmenting the earlier "unitary conception of ownership into a more shadowy 'bundle of rights,'" which ultimately "dissolve[d]" the concept of property. As legal realist Arthur Corbin observed: "Our concept of property has shifted '[P]roperty' has ceased to describe any *res*, or object, of sense, at all, and has become merely a bundle of legal relations "196 If property was to remain a viable and determinate legal concept within the legal realists' social conception of legal rights, then the legal realists had to, in Felix Cohen's words, "get rid of the confusion of nominalism." Cohen and other legal realists thus saw that property did have an "essential" characteristic — the "right to exclude others from doing something." Although the legal realists are widely recognized for propagating the nominalist "bundle" metaphor, they also deserve attribution for the positivist exclusion concept of property, which is the dominant concept of property to-day. 199

193. See Kaiser Aetna v. United States, 444 U.S. 164, 176 (1979) (referring to "the bundle of rights that are commonly characterized as property"); BRUCE A. ACKERMAN, PRIVATE PROPERTY AND THE CONSTITUTION 26–29 (1977) (discussing the "scientific" analysis of property as a "bundle" of rights); BENJAMIN N. CARDOZO, THE PARADOXES OF LEGAL SCIENCE 129 (1928) ("The bundle of power and privileges to which we give the name of ownership is not constant through the ages."); JOHN G. SPRANKLING, UNDERSTANDING PROPERTY LAW 4 (2d ed. 2007) (recognizing that it is common to describe property as a "bundle of rights").

194. Gerald Korngold & Andrew P. Morriss, *Introduction, in* PROPERTY STORIES 1 (Gerald Korngold & Andrew P. Morriss eds., 2004); *see also* United States v. Craft, 535 U.S. 274, 274 (2002) ("A common idiom describes property as a "bundle of sticks"—a collection of individual rights which, in certain combinations, constitute property."); STEPHEN R. MUNZER, A THEORY OF PROPERTY 16 (1990) (discussing the "sophisticated conception" of property as a "bundle of sticks" or a set of "legal relations . . . among persons or other entities with respect to things").

195. Thomas C. Grey, *The Disintegration of Property, in Nomos XXII: Property 69, 69* (J. Roland Pennock & John W. Chapman eds., 1980); *see also* Jeanne L. Schroeder, *Chix Nix Bundle-O-Stix: A Feminist Critique of the Disaggregation of Property, 93 MICH. L. REV. 239, 239 (1994) ("Property was dead The coroner, Wesley Newcomb Hohfeld, revealed that the unity, tangibility, and objectivity of property perceived by our ancestors was a phantom. Property is, in fact, merely a 'bundle of sticks.'").*

196. A.L.C. [Arthur Linton Corbin], Taxation of Seats on the Stock Exchange, 31 YALE L.J. 429, 429 (1922).

197. Cohen, *supra* note 27, at 378 (critiquing earlier realist nominalist definition of property in terms of social relations).

198. *Id.* at 370–71; *see also* Int'l News Serv. v. Associated Press, 248 U.S. 215, 250 (1918) (Brandeis, J., dissenting) ("An essential element of individual property is the legal right to exclude others from enjoying it."); *id.* at 246 (Holmes, J., dissenting) ("Property depends upon exclusion by law from interference..."); Morris R. Cohen, *Property and Sovereignty*, 13 CORNELL L.Q. 8, 12 (1927) ("[T]he essence of private property is always the right to exclude others."); Hohfeld, *supra* note 192, at 745–46 (arguing that the right to exclude is the only claim-right constituting the *in rem* jural relation known as "property").

199. See, e.g., Coll. Sav. Bank v. Fla. Prepaid Postsecondary Educ. Expense Bd., 527 U.S. 666, 673 (1999) ("The hallmark of a protected property interest is the right to exclude

The connection between the legal realists' property theory and patent law is found buried in the often overlooked details of this well-known summary of the transformation of American legal thought at the turn of the twentieth century. Of course, the realists were not concerned with patent theory or doctrine; rather, they were concerned only with reconceptualizing property rights in land. But their reconceptualization of real property relied on patents as exemplars of the exclusion concept of property generally. In this respect, the rise of the exclusion concept of patents in the mid-twentieth century brings full circle a revolution in property theory that began with Hohfeld's reconceptualization of property in land.

Within Hohfeld's schema of legal relations, "property" was reducible to a fundamental "multital right, or claim (right in rem)" that corresponded to a necessary duty on the part of citizens to respect this right. Hohfeld thus concluded that there was only one claim-right that was necessarily inherent in all forms of property: the claim against the world that other people are *excluded* from land or some other resource, i.e., the world has a duty not to interfere with the claimed property. All other "legal privileges," which was Hohfeld's terminology for the rights of use and disposition, represented only "limits [on this right to exclude as] fixed by law on grounds of social

others."); Kaiser Aetna v. United States, 444 U.S. 164, 176 (1979) (claiming that the right to exclude is "one of the most essential sticks in the bundle of rights that are commonly characterized as property"); *see also* Jacque v. Steenberg Homes, Inc., 563 N.W.2d 154, 159–60 (Wis. 1997) (noting that "the right to exclude others" is the essential right constituting property).

The exclusion concept of property perhaps remains dominant today because it has been adopted in the economic analysis of property. Although some economists have embraced the disaggregating effects of the bundle metaphor, see Merrill & Smith, supra note 190, at 366–83, the exclusion concept of property played a central role in Harold Demsetz's famous economic analysis of property rights, see Harold Demsetz, Toward a Theory of Property Rights, 57 AM. ECON. REV. (PAPERS & PROC.) 347 (1967). Without recognizing his intellectual debt to the realist claim that property secures only a right to exclude, Demsetz maintained that "[p]rivate ownership implies . . . the right of the owner to exclude others." Id. at 354. The right to exclude thus became the essential fulcrum in the economic analysis of property, because, as Demsetz explained, "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." Id. at 356 (emphasis added). Following in Demsetz's footsteps, Professor Thomas Merrill later declared that "the right to exclude others is more than just 'one of the most essential' constituents of property—it is the sine qua non." Merrill, supra note 27, at 730.

200. The legal realists sought to reconceptualize real property into nominalist and positivist terms. They succeeded in redefining property in land as a socially contingent bundle of rights with a positively-granted right to exclude as the essential right constituting this legal entitlement. This theoretical shift ultimately made property more plastic, and thereby more easily regulated by the administrative state without implicating any constitutional protections for property, such as those afforded by the Due Process and Takings Clauses. See generally Adam Mossoff, The Use and Abuse of IP at the Birth of the Administrative State, 157 U. PA. L. REV. (forthcoming June 2009).

201. Hohfeld, *supra* note 192, at 723, 745 (emphasis omitted). 202. *Id.* at 746.

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and economic policy."²⁰³ In other words, the rights of possession, use and disposition — which were once considered to be necessary, essential rights constituting property — were now conceptualized as only external legal limitations imposed on the single claim-right constituting property: the right to exclude.

In advancing this new definition of property rights in land, Hohfeld and the legal realists who employed his conceptual framework repeatedly used patents to argue for the conceptual reconstruction of the nature of property in land. In his own work on property, Hohfeld quoted a prominent nineteenth-century treatise that defined property in land in terms of how "the owner may use or dispose of [it] in any manner he pleases within the limits prescribed by the terms of his right." Hohfeld found this earlier concept of property to be entirely unsatisfactory. He explained that it was incoherent, because defining property in terms of rights of use or disposition "would exclude not only many rights in rem, or multital rights, relating to persons, but also those constituting elements of patent interests, copyright interests, etc."²⁰⁵ Following in Hohfeld's footsteps, Morris Cohen argued that incorporeal entitlements, such as "franchises, patents, good will, etc.," proved that "the essence of private property is always the right to exclude others." By the 1950s, Morris Cohen's son, Felix Cohen, further refined his father's and Hohfeld's arguments concerning property, writing that intangibility, such as the absence of color, shape, and other physical characteristics in the subject matter of a property entitlement, establishes with conceptual clarity that property is simply the "right to exclude." Cohen believed this was exemplified by a "patent on a chemical process."208

It is perhaps surprising to learn that Justice Oliver W. Holmes, Jr. had decades earlier preempted Hohfeld's and the Cohens' arguments in favor of the exclusion concept of property. In *The Common Law*, then-lawyer Holmes described the exclusion concept of property in a chattel (a book) in terms that are remarkably similar to those used today by patent scholars to describe the allegedly unique exclusion concept of patents:

The law does not enable me to use or abuse this book which lies before me. That is a physical power which

^{203.} Id.

^{204.} Hohfeld, *supra* note 192, at 724 (quoting STEPHEN MARTIN LEAKE, AN ELEMENTARY DIGEST OF THE LAW OF PROPERTY IN LAND 2 (1874)) (emphasis omitted).

^{205.} Id. at 725 ("patent interests" emphasis added).

^{206.} Cohen, *supra* note 198, at 12.

^{207.} Cohen, *supra* note 27, at 359–61, 371. Felix Cohen further explained that the best summary of "property in terms of a simple label" was as follows: "To the world: Keep off X unless you have my permission, which I may grant or withhold. Signed: Private citizen[.] Endorsed: The state." *Id.* at 374.

^{208.} Id. at 360.

I have without the aid of the law. What the law does is simply to prevent the other men to a greater or less extent from interfering with my use or abuse.²⁰⁹

On the basis of his distinction between physical and legal power, Holmes concluded that "ownership" of land or chattels means simply that an owner is "protected in excluding other people from such interference. The owner is allowed to exclude all, and is accountable to no one." Holmes, like Hohfeld and the Cohens, also believed that patents are a prime example of how the state may grant a property right — the right to exclude — to anyone in anything. 211

More than a century later, patent scholars and jurists now define patents in the exact same terms used by Hohfeld, the Cohens, and Justice Holmes to define tangible property rights — the law provides an inventor with a right to exclude. 212 Yet patent scholars mistakenly believe that the exclusion concept of patents is a unique conceptual account of property in inventions. They do not realize that the exclusion concept of patents is very much the intellectual descendant of the exclusion concept of property.

It bears emphasizing that Justice Holmes, Hohfeld, and the legal realists were not advocating an exclusion concept of patents; to the contrary, they were advancing a general theory about property in land and other tangible goods, and they were simply using patents as a means to advance their conclusions.²¹³ In fact, in their groundbreaking scholarship on property, Hohfeld and the Cohens specifically addressed only property in land. But their reconceptualization of tangible property into a nominalist set of socially contingent privileges attached to a central right to exclude was not, and could not be, limited only to land and chattels. Patents are a species of property, and thus the legal realists' conceptual work in real property ultimately impacted patent theory and doctrine.

C. The Genesis of the Exclusion Concept of Patents: Wesley Hohfeld's Redefining Use-Rights as "Privileges"

In the years following the revolution of legal realism in American law, patent scholars and jurists applied the exclusion concept in property to patents. The result is the ubiquitous exclusion concept of patents. In sum, they maintain that patents secure only the right to exclude — this is the single "claim-right" secured under the patent

^{209.} O. W. HOLMES, JR., THE COMMON LAW 220 (Boston, Little, Brown, and Co. 1881).

^{210.} Id. at 246.

^{211.} Id. at 245. (claiming that the right to exclude "may be given by the legislature to [any] persons [f]or instance, a patentee").

^{212.} See supra Part II.A.

^{213.} See supra note 200 and accompanying text.

that creates the correlative duty in others to not manufacture, use, or sell a patented invention. ²¹⁴ But how did this occur? The key to understanding how the legal realists' concept of property in land came to be applied to patents is found in Wesley Hohfeld's redefinition of the rights of use and disposition into "privileges."

In arguing that property comprises only a right to exclude, Hohfeld was well aware that this legal entitlement had long referred to what scholars and jurists had identified as a set of essential rights, such as the rights of possession, use, and disposition. Thus, Hohfeld acknowledged that when one says that "A is fee-simple owner of Blackacre," this means more than just a claim-right to exclude other people; rather, as Hohfeld explained, "A has an indefinite number of legal privileges of entering on the land, using the land, harming the concept of property defined as essential characteristics of property²¹⁶ were now recast as affirmative grants of personal "privileges" that were incidental to the claim-right of exclusion that identified something as "property" under the law. What courts once referred to as the right to use one's property, for instance, Hohfeld and the legal realists now characterized as a positive grant of privilege by the government, ²¹⁹ such as a judicial order of an easement by necessity for a dominant tenement, a statutory limit on building height in a zoning regime, or any other government-backed "negation of a duty to stay off" an owner's land. ²²⁰ As Hohfeld explained, such restrictions de-

^{214.} See supra Part II.A.

^{215.} Hohfeld, supra note 192, at 746.

^{216.} See supra Part III.A.

^{217.} See Hohfeld, supra note 192, at 723 (discussing a negative easement as an example of the existence of multiple in personam "legal privileges of controlling and using the land").

^{218.} See supra notes 134-39 and accompanying text.

^{219.} See, e.g., Walter Wheeler Cook, Ownership and Possession, in 11 ENCYCLOPAEDIA OF THE SOCIAL SCIENCES 521, 522 (Edwin R.A. Seligman & Alvin Johnson eds., 1937) ("The aggregate of claims, privileges, powers and immunities of a Roman owner who had dominium was described in somewhat absolute terms as the privilege of using, diminishing or completely consuming it.") (second emphasis added); Robert L. Hale, Rate Making and the Revision of the Property Concept, 22 COLUM. L. REV. 209, 214 (1922) (defining the "right of ownership in a manufacturing plant..., to use Hohfeld's terms, [as] a privilege to operate the plant, plus a privilege not to operate it, plus a right to keep others from operating it, plus a power to acquire all the rights of ownership in the products").

^{220.} Hohfeld, *supra* note 25, at 32. Hohfeld does acknowledge that legal privileges or "rights *in personam*... may occasionally be *negative*," Hohfeld, *supra* note 192, at 725, but it is clear that he believes that legal privileges in property must be *positively* created legal obligations, either by express contract or law. This is consistent with Hohfeld's discussion of privilege as "liberty," Hohfeld, *supra* note 25, at 38–44, by which he means a *legally created* negation or imposition of a duty on others, such as in expressly defined "privileged communications" under libel law or in the "privilege against self-incrimination" under the Fifth Amendment, *id.* at 39. *See id.* at 36–37. ("It would therefore be a *non sequitur* to con-

fine the range of positive obligations imposed on a landowner's exercise of his right to exclude "within limits fixed by law on grounds of social and economic policy." By reconceptualizing use-rights from negative rights of liberty of action into socially-contingent, positive grants of "privileges" by the government, Hohfeld and the legal realists unintentionally set the stage for the exclusion concept of patents.

The Hohfeldian analytical framework immediately appeared sensible to patent scholars and lawyers given the unique provenance of patents at common law. The origins of modern patent law are found in the late sixteenth century, when Queen Elizabeth adopted a policy of granting manufacturing monopolies to industrialists and tradesmen in order to promote the economic development of the realm.²²² These monopoly grants were issued through a royal legal device known as a "letter patent" (which explains the modern convention of labeling the legal protection of an invention as a patent).²²³

Although both are identified as "patents," one of the primary differences between these sixteenth-century royal manufacturing monopolies and the eighteenth-century property rights in inventions was that the former imposed on their recipients an affirmative duty to practice the trade. ²²⁴ It is easy to understand this requirement of the early letters patent: The purpose of granting these manufacturing monopolies was to introduce new trades and products into the English realm, and this goal was not achieved if the newly minted monopolist did not set up shop in England and begin employing apprentices and selling products. Thus, the *quid pro quo* for receiving a manufacturing monopoly in a royal letter patent was the patentee's promise to work the subject matter of the grant. If he did not work the trade, then he lost his patent. ²²⁵

By the late eighteenth century, courts had altered the *quid pro quo* of the patent from an affirmative duty to work the patented manufacture to a disclosure of the invention in the patent document.²²⁶ It was

clude from the mere existence of such liberties that 'third parties' are under a *duty* not to interfere, etc.").

^{221.} Hohfeld, supra note 192, at 746.

^{222.} See Adam Mossoff, Rethinking the Development of Patents: An Intellectual History, 1550–1800, 52 HASTINGS L.J. 1255, 1259 (2001) ("The crown's prerogative to issue letters patent was a central tool in bestowing privileges upon individuals in the furtherance of royal policies.").

^{223.} Id.

^{224.} Id. at 1261.

^{225.} See, e.g., id. at 1277–78 (describing legal challenge to a patent in the 1670s based in part on the failure of the patentee to have established the trade in England); id. at 1279–80 (describing several patents granted from the 1670s to the 1690s that were voided by the Crown given the failure of the patentee in working the patent).

^{226.} See id. at 1291–93 (discussing Mansfield's famous jury instructions in *Liardet v. Johnson*, 62 Eng. Rep. 1000 (K.B. 1778), which established disclosure of the invention in the specification as the consideration offered by the inventor in exchange for receiving the patent).

well established by 1790, the year in which Congress enacted the first Patent Act, that there was no legal requirement that a patentee work his invention.²²⁷ Similar to an owner of land, an American patentee was at liberty to do nothing with his invention but sue other people to prevent them from trespassing on his rights.²²⁸

When this historical development is combined with Hohfeld's reframing of use-rights as "privileges," it becomes evident why patent scholars and jurists today reject any use-rights in patent law. In such phrases as "use-rights," they now hear the echoes of the antiquated privileges granted by the English Crown — a positive duty to work or manufacture the invention. The Hohfeldian syllogism thus seems undeniable: If use-rights are privileges, and patent privileges represented affirmative duties to practice the subject matter of the patent grant, then to admit such privileges in patents today is to impose positive or affirmative obligations on patentees.²²⁹ The syllogism seems even more compelling when one realizes that Hohfeld specifically defined a "privilege" as a positive grant by the government that limited the ways in which the right to exclude could be used by the property owner. 230 The degree to which Hohfeld's conception of privileges has influenced modern patent jurisprudence is best revealed in how patent scholars now refer to the rights to make, use or sell an invention as "affirmative" or "positive" rights.

Given this intellectual history, it seems virtually self-evident to modern patent scholars and jurists that patents necessarily secure only the right to exclude. When they read historical references to use-rights in nineteenth-century patent statutes and case law, they do not realize that this represents a different theory of property.²³³ Instead, they maintain that the development from a royal privilege in a manufacturing monopoly to a right to exclude in an invention reflected an equally important conceptual development in which patents were burned pure

^{227.} See Patent Act of 1790, ch. 7, §§ 1–6, 1 Stat. 109, 109–11 (repealed 1793). In this first patent statute, Congress followed the precedent established by Lord Mansfield in *Liardet v. Johnson*, requiring only that the inventor provide adequate disclosure in a specification, see supra note 226.

^{228.} See Mossoff, supra note 86, at 993 (identifying nineteenth-century case law in which patent infringers were accused of committing "trespass").

^{229.} Cf. ISAIAH BERLIN, Two Concepts of Liberty, in FOUR ESSAYS ON LIBERTY 118–72 (1969) (analyzing the distinction between "negative" and "positive" conceptions of rights).

^{230.} See supra notes 217-21 and accompanying text.

^{231.} See supra notes 31-32, 47 and accompanying text.

^{232.} See supra note 49 and accompanying text.

^{233.} Cf. Michael Kent Curtis, Historical Linguistics, Inkblots, and Life After Death: The Privileges or Immunities of Citizens of the United States, 78 N.C. L. REV. 1071, 1093 (2000) ("In 1913, Professor Wesley Newcomb Hohfeld published an influential article suggesting that important theoretical and legal distinctions should be made between rights, privileges, and immunities. . . . It would be anachronistic to assume that people in the nineteenth century used the words 'rights,' 'privileges,' and 'immunities' exactly as Hohfeld later suggested they should.").

of antiquated feudal service duties to the Crown.²³⁴ This is best exemplified by a prominent patent law casebook, written by three patent scholars and a Federal Circuit judge, which teaches students that "[t]o the extent that a patent right comprises the right to exclude others, not all colonial grants should be considered patent grants" because these colonial statutes secured to inventors the rights to make, construct and sell their inventions.²³⁵ Other jurists and scholars, such as Donald Chisum, have similarly dismissed historical patent law references to the rights of use and disposition as representing only "confusion" or "dictum."²³⁶ In the modern Hohfeldian era, in which use-rights have been redefined as "privileges," it seems almost unnecessary to point out that patents do not secure privileges (i.e., positively granted use-rights).²³⁷ To the contrary, the conventional wisdom declares that patents secure only a negative right to exclude.

The fundamental connection between the exclusion concept of property and the exclusion concept of patents is further revealed in the identical ways in which Hohfeld and modern patent scholars have critiqued earlier theories of property and patents. In his work on property, Hohfeld censured the nineteenth-century legal scholar John Austin for having "confused legal privileges with legal rights." According to Hohfeld, Austin referred to both exclusion and use as "rights," and thus Austin "confusedly" conflated the claim-right of exclusion with the privileges comprising the set of positive use and possession grants by the state that supplement or limit this claim-right. Today, the Federal Circuit similarly accuses earlier Congresses and courts of sowing "confusion" when these earlier authorities spoke of use-rights in patent law.

These identical charges of confusion are not happenstance. These parallel polemics reflect the degree to which modern patent lawyers and scholars have unconsciously adopted the Hohfeldian exclusion

^{234.} See, e.g., OSCAR A. GEIER, PATENTS, TRADE-MARKS AND COPYRIGHTS 6 (5th ed. 1930) (claiming that "[o]ut of a long struggle in the English Courts prior to the institution of our present system of patents, the idea was gradually evolved of the contract theory of a patent," in which "the inventor... agrees to disclose his invention to the public and in return the government grants him the right to exclude others").

^{235.} ADELMAN ET AL., supra note 32, at 14.

^{236.} See supra notes 90-91 and accompanying text.

^{237.} See, e.g., Michael A. Carrier, Refusals to License Intellectual Property After Trinko, 55 DEPAUL L. REV. 1191, 1206–07 (2006) (A patentee may "determine that its product will not be commercially successful. Such a determination would be consistent with the right to exclude (not use) underlying the IP laws.").

^{238.} Hohfeld, *supra* note 192, at 748–49. Here, Hohfeld is critiquing John Austin's *Lectures on Jurisprudence*. See 1 JOHN AUSTIN, LECTURES ON JURISPRUDENCE (Robert Campbell ed., 3d ed. 1869) (1832).

^{239.} Hohfeld, *supra* note 192, at 749 (stating that "Austin uses the term 'right' indiscriminately and confusedly to indicate both those jural relations that are legal rights, or claims, and those that are legal privileges").

^{240.} See supra note 91 and accompanying text.

concept of property in land in defining patents as property. ²⁴¹ This is obscured today only because patent scholars and lawyers continue to mistakenly believe that property in land was left untouched by the conceptual work of Hohfeld and the legal realists. As a result, they continue to use real property as a conceptual foil in explaining how a patent is a unique property right insofar as it secures only a single claim-right — the right to exclude. ²⁴² They do not realize that this property theory — the exclusion concept of property — was first applied to land, not patents. In fact, as discussed above, Hohfeld and the legal realists used patents as their primary doctrinal examples in proving the exclusion concept of property in land.

As the legal realists succeeded in redefining the nature of property entitlements writ large, generations of law students, lawyers, jurists, and scholars applied the bundle and exclusion concepts to patents. The result was a growing body of scholarship throughout the twentieth century that defended and advanced the exclusion concept of patents. The pinnacle of this development was the codification of the exclusion concept of patents in select portions of the 1952 Patent Act, and the appeal to blocking patents and regulatory restrictions on patents as allegedly irrefutable evidence that patents cannot secure any "positive" rights of use or disposition. As a matter of intellectual history, the exclusion concept of patents represents the final doctrinal synthesis of a broader theoretical shift in early twentieth-century American property theory. By 1952, patents came full circle from

^{241.} Further reflecting this long-unidentified Hohfeldian influence on modern patent law, a recently published patent law hornbook relies on the 1936 First Restatement of Property for its definition of a "right" as securing only exclusion, apparently not realizing that the First Restatement explicitly adopted Hohfeld's conceptual framework of rights, privileges, powers, and immunities in conceptualizing property. *See* MUELLER, *supra* note 33, at 14 n.28.

^{242.} See supra notes 39, 49-50 and accompanying text.

^{243.} See, e.g., LEON H. AMDUR, PATENT FUNDAMENTALS 53-54 (1948) ("A patentee is merely given the right to exclude others from making, using or selling that which is covered by the patent. This is a 'negative' or prohibitive right as distinguished from a positive or absolute right."); OTTO RAYMOND BARNETT, PATENT PROPERTY AND THE ANTI-MONOPOLY LAWS 33-34 (1943) (claiming that the "patent laws specify how . . . the inventor may, by the grant of a patent, secure the right to exclude all others from practicing his patented invention during the life of the patent."); GEORGE E. FOLK, PATENTS AND INDUSTRIAL PROGRESS 11 (2d ed. 1942) ("[T]he right to make, use, and vend does not arise from the patent, and the patent does not add anything in that respect. What it does is to grant to the patentee the right to exclude everyone else from making, using, or vending the invention except with the permission of the patentee."); FRANK Y. GLADNEY, RESTRAINTS OF TRADE IN PATENTED ARTICLES 18 (1910) (describing the "Patent Law Right" as solely the right to "exclude others from making, using and selling" the patented invention); GEIER, supra note 234, at 5-6 ("While the patent states on its face that the exclusive right to make, use or sell is granted, this in reality is not the case, but what really is granted is the right to exclude others from making, using or selling."); Thomas Reed Powell, The Nature of a Patent Right, 17 COLUM. L. REV. 663, 665 (1917) ("What the patent gives is the right to exclude others from making, using and vending the invention.").

^{244.} See supra Part II.C.

^{245.} See supra Part II.B.

serving merely as evidence for how land and chattels secured only a right to exclude to ultimately being defined in terms of exclusion itself.

IV. SOME PRELIMINARY THOUGHTS ON THE ROLE OF CONCEPTUAL PROPERTY THEORY IN PATENT LAW

Property theory does not explain every detail of the patent system, but identifying the role that it has played in the design of the American patent system can provide important insights into modern patent doctrine. Such theoretical inquiries may not seem to be immediately relevant to the everyday work of the lawyer or judge, but the analysis of the conceptual content of legal entitlements does have practical import. Normative assessments of the policies justifying particular patent doctrines are beyond the scope of this Article, which establishes only the conceptual claim that the exclusion concept of patents insufficiently accounts for patents as property given its mistaken doctrinal and conceptual claims about the nature of property entitlements. Nonetheless, it is important to conclude with some observations of how the conceptual weaknesses of the exclusion concept may impact patent law, although evaluating the normative implications of this insight can be fully addressed only through careful empirical analyses of individual patent doctrines.

As a general matter, the conceptual analysis of the content of a legal entitlement creates the descriptive framework within which legislators, judges and lawyers work. In embracing the exclusion concept of patents, judges and scholars assume that it is the only possible conceptual foundation for their policy prescriptions in patent law. Of course, theory must necessarily abstract from certain details, ²⁴⁶ and thus economics and concerns about innovation in science and technology certainly play a fundamental role in the creation and evolution of the legal rules defining and protecting patented inventions as property. Nonetheless, economists must use legal entitlements as basic units of analysis, and thus how one conceptualizes such legal rights can constrain what one sees as the appropriate descriptive and normative inputs that go into a coherent and comprehensive account of a legal doctrine. 247 As the legal realists reminded us, normative assessments of the law are "empty without objective description of the causes and consequences of legal decisions."²⁴⁸

^{246.} Merrill & Smith, supra note 190, at 398.

^{247.} See id. at 358–98 (identifying how economists have defined "property" has directed their normative assessments of how these entitlements should be legally protected).

^{248.} Felix S. Cohen, *Transcendental Nonsense and the Functional Approach*, 35 COLUM. L. REV. 809, 849 (1935).

This suggests two reasons to care about conceptual property theory and the role that it may play in modern patent doctrine. The first is doctrinal. The conceptual account of a legal entitlement guides courts in creating the specific doctrines necessary to secure the different elements of this entitlement. In 1824, for instance, Justice Joseph Story, one of the principal architects of the American patent system, 249 observed that the "inventor has . . . a property in his inventions; a property which is often of very great value, and of which the law intended to give him the absolute *enjoyment* and *possession*." To our modern eyes, this may sound like a confused account of the property rights secured by a patent, but in the nineteenth century, this was a pedestrian statement that merely recounted a concept of property that informed the legal enforcement of all property entitlements at that time. 252

On the basis of defining patents in the same conceptual terms as real property or chattels — securing rights of possession, use, and disposition — Justice Story and other nineteenth-century jurists created some of the unique legal doctrines in the American patent system. These included, among others, the default rule governing the commercialization of patented inventions, ²⁵³ liberal canons for construing both patents and the patent statutes, ²⁵⁴ and the protection of patents as constitutional private property under the Takings Clause. ²⁵⁵ These nineteenth-century patent doctrines were informed by, and found support in, a conceptual account of patents as property on par with land and other tangible property entitlements. ²⁵⁶ This unique American approach to defining patents as property rights, as opposed

^{249.} See Frank D. Prager, The Influence of Mr. Justice Story on American Patent Law, 5 AM. J. LEGAL HIST. 254, 254 (1961) (noting that it is "often said that Story was one of the architects of American patent law").

^{250.} Ex parte Wood, 22 U.S. (9 Wheat.) 603, 608 (1824) (emphases added).

^{251.} See supra note 91 and accompanying text.

^{252.} See supra Part III.A.

^{253.} See supra Part III.A.

^{254.} See Mossoff, supra note 86, at 998–1001 (discussing how courts expressly imported liberal interpretative canons from real property law into patent law).

^{255.} See generally Mossoff, supra note 152 (discussing long-forgotten case law in which courts enthusiastically protected patents as constitutional private property under the Takings Clause).

^{256.} Given that the conceptual account of patents has changed since these doctrines were first created and enforced by nineteenth-century courts, it is perhaps unsurprising that all three of these doctrines are now the subject of substantial discord within patent law. See, e.g., Quanta Computer, Inc. v. LG Elecs., Inc., 128 S. Ct. 2109, 2113 (2008) (holding that exhaustion doctrine is a per se rule that eliminates all patent rights in a sale of a patented invention); Zoltek Corp. v. United States, 442 F.3d 1345, 1350 (Fed. Cir.) (per curiam), rehearing en banc denied, 464 F.3d 1335 (Fed. Cir. 2006) (holding that patents are not constitutional private property secured under the Takings Clause); Doug Lichtman & Mark A. Lemley. Rethinking Patent Law's Presumption of Validity, 60 STAN. L. REV. 45 (2007) (arguing that the presumption of validity in patent infringement cases be eliminated or modified).

to defining them merely as special grants of personal privilege,²⁵⁷ confirms that the relationship between conceptual property theory and patent doctrine is neither hypothetical nor tenuous.

Is there a similar relationship today between conceptual property theory and patent doctrine? Given the canonical status of the exclusion concept of patents and the resulting priority given to the normative analysis of patent doctrine, it is harder to identify any such causal relationship. Simply put, there is a dearth of in-depth descriptive analysis within court decisions and scholarship about the conceptual content of patents as property entitlements. But it would be anomalous if the role of conceptual property theory within patent law was merely a historical artifact of the nineteenth century. In fact, there is some evidence that the conceptual account of patents as property was very much an issue of debate and discussion up through the heyday of legal realism in the 1930s. At that time, at least one patent lawyer observed that the increasing difficulties in navigating the patent-antitrust nexus were in part a problem of how courts conceptually framed the legal entitlements secured in a patent.

As in the nineteen thirties, there is substantial tumult within patent law today, and there is within this doctrinal upheaval an intriguing indication that conceptual property theory continues to influence patent jurisprudence, albeit implicitly. In its recent return to patent law, the Supreme Court has been highly critical of what it has perceived as the Federal Circuit's unprecedented formalism. The Supreme Court reversed the Federal Circuit's "categorical" approach in issuing injunctions against infringers, and it reversed the Federal Circuit's rule-like "rigid approach" in applying the nonobviousness requirement to patented inventions. Several years earlier, the Supreme Court twice reversed the Federal Circuit's attempts at abrogating the doctrine of equivalents, a standards-based infringement doctrine that the Federal Circuit regarded as infecting patent law with unacceptable indeterminacy. In these and other cases, the Court has reasoned that

^{257.} See B. ZORINA KHAN, THE DEMOCRATIZATION OF INVENTION: PATENTS AND COPYRIGHTS IN AMERICAN ECONOMIC DEVELOPMENT, 1790–1920 (2005); Mossoff, supra

^{258.} See supra notes 43-44 and accompanying text.

^{259.} See Alfred McCormack, Restrictive Patent Licenses and Restraint of Trade, 31 COLUM. L. REV. 743, 743 (1931) ("The efforts of the courts to define the rights secured by a patent, where the patentee by a conditional license imposes some economic restraint on his licensee, have given rise to a considerable difference of opinion and much discussion.").

^{260.} eBay Inc. v. MercExchange, L.L.C., 126 S. Ct. 1837, 1841 (2006).

^{261.} KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1739 (2007).

^{262.} See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 738–39 (2002) (scolding the Federal Circuit for having "ignored" Supreme Court precedent on the doctrine of equivalents in crafting a new "complete bar" rule as part of the equivalents analysis); Warner-Jenkinson Co. v. Hilton Davis Chemical Co., 520 U.S. 17, 26 n.3 (1997) (rejecting the de facto abrogation of the doctrine of equivalents given the Federal Circuit's overriding concerns about certainty in claim construction and infringement actions).

the Federal Circuit's formalistic jurisprudence contradicted longstanding historical precedent in patent law, justifying its reversal. ²⁶³

Yet the Supreme Court has also been charged with being unduly formalistic in its own patent jurisprudence, as evidenced by its most recent decision in Quanta Computer, Inc. v. LG Electronics, Inc. 264 Here, the Supreme Court claimed to be following nineteenth-century case law on patent exhaustion, ²⁶⁵ which, as discussed in Part III, included the same default rule as had been applied to real property conveyances. This default rule provided patentees with the freedom to impose conditions or otherwise limit the property interest they conveyed to third parties. ²⁶⁶ As summarized in an early twentieth-century exhaustion case quoted with approval in the Quanta decision: "[T]he right to vend is exhausted by a single, unconditional sale, the article sold being thereby carried outside the monopoly of the patent law and rendered free of every restriction which the vendor may attempt to put upon it."267 But the Quanta Court reframed this "longstanding doctrine" as imposing a per se rule on patentees and their licensees, holding that "the initial authorized sale of a patented item terminates all patent rights to that item."268

Given that the *Quanta* Court claimed to be following "longstanding doctrine," the contradiction between the nineteenth-century default rule and the *Quanta* Court's per se rule is remarkable. If a sale exhausts all patent rights, then a patent owner's use of restrictive covenants or words of limitation in a conveyance instrument to limit the property interest conveyed to a third party does not change this fact. This conflict has not gone unnoticed, as patent scholars quickly observed after the decision was handed down that the Court was either creating "inconsistent doctrine" or "crafting . . . new precedent." Professor Epstein called the *Quanta* Court to task for its new per se

^{263.} See KSR Int'l Co., 127 S. Ct. at 1739; eBay, 126 S. Ct. at 1840–41; Festo Corp., 535 U.S. at 738–39; Warner-Jenkinson Co., 520 U.S. at 26.

^{264. 128} S. Ct. 2109 (2008).

^{265.} *Id.* at 2115 (citing Bloomer v. McQuewan, 55 U.S. (14 How.) 539, 549 (1852); Bloomer v. Millinger, 68 U.S. (1 Wall.) 340, 351 (1863); Adams v. Burke, 84 U.S. (17 Wall.) 453, 455 (1873)).

^{266.} See supra Part III.A.

 $^{267.\} Quanta\ Computer,\ 128\ S.\ Ct.\ at\ 2116\ (quoting\ Motion\ Picture\ Patents\ Co.\ v.\ Universal\ Film\ Mfg.\ Co.,\ 243\ U.S.\ 502,\ 516\ (1917))\ (emphasis\ added).$

^{268.} *Id.* at 2115 (emphasis added); *see also id.* at 2122 ("The authorized sale of an article that substantially embodies a patent exhausts the patent holder's rights and prevents the patent holder from invoking patent law to control postsale use of the article.").

^{269.} Holman's Biotech IP Blog, *Quanta* and Its Impact on Biotechnology, http://holmansbiotechipblog.blogspot.com/2008/06/quanta-and-its-impact-on-biotechnology.html (June 11, 2008). *But see* Posting of David McGowan to Patently-O, Reading *Quanta* Narrowly, http://www.patentlyo.com/patent/2008/07/reading-quanta.html (July 27, 2008).

^{270.} Posting of Shubha Ghosh to Antitrust & Competition Policy Blog, The Quandry of *Quanta*: Thoughts on the Supreme Court Decision One Week Later, http://lawprofessors.typepad.com/antitrustprof_blog/2008/06/the-quandry-of.html (June 17, 2008).

exhaustion rule, concluding that "Justice Thomas' opinion is a pure exercise in idle formalism." ²⁷¹

These charges and countercharges of formalism in the recent patent law debates are an intriguing indicator of how conceptual property theory may still be at work within patent doctrine. Recalling that the content of a legal entitlement creates a conceptual framework within which courts craft legal doctrines to secure the various elements of this entitlement, it is significant that the right to exclude is a purely formal, negative right. This creates a conceptual framework that lends itself to the enforcement of this right by rules, not standards. 272 Property scholars have long understood this conceptual point, because trespass doctrine, which enforces a landowner's right to exclude.²⁷³ constitutes a formal per se rule determining with absolute precision in all cases whether one's property interest in a parcel of land has been breached.²⁷⁴ Since patents are now defined solely by the right to exclude, it is unsurprising that patent infringement is often analogized to trespass. 275 Accordingly, patent claims are similarly analogized to the metes and bounds of real property — the bright-line threshold that triggers absolute liability for trespass. ²⁷⁶ The pervasive use of trespass analogies in patent scholarship and case law reflects an elegant conceptual coherence between this real property doctrine and the exclusion concept of patents.²⁷⁷ Thus, it is little surprise that the Federal Circuit talks often of the need for bright-line rules in patent law that provide ex ante certainty to patentees and the public.²⁷⁸

^{271.} Richard A. Epstein, *The Disintegration of Intellectual Property* 43 (Univ. of Chi. Law & Econ., Olin Working Paper No. 423, 2008), *available at* http://ssrn.com/abstract=1236273.

^{272.} Cf. Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 436 (1982) (justifying a per se rule that a breach of the right to exclude by a "permanent physical occupation of property" is a compensable taking on the ground that it "avoids otherwise difficult line-drawing problems").

^{273.} See Jacque v. Steenberg Homes, Inc., 563 N.W.2d 154, 159–60 (Wis. 1997) (discussing how trespass secures a landowner's "right to exclude others").

^{274.} See, e.g., Carol M. Rose, Crystals and Mud in Property Law, 40 STAN. L. REV. 577, 593–94 (1988) (discussing the normative economic analysis of trespass as a "clear, crystalline rule"); Henry E. Smith, Property and Property Rules, 79 N.Y.U. L. REV. 1719, 1767–68 (2004) (distinguishing the "[b]road, bright-line rules of trespass" from the "law of negligence and parts of nuisance law," in which "uses do need to be individually delineated and evaluated . . . through standards").

^{275.} See King Instruments Corp. v. Perego, 65 F.3d 941, 947 (Fed. Cir. 1995) ("An act of infringement... trespasses on [a patentee's] right to exclude."); Markman v. Westview Instruments, Inc., 52 F.3d 967, 997 (Fed. Cir. 1995) (Mayer, J., concurring) (noting 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").

^{276.} MERGES & DUFFY, *supra* note 32, at 26 (noting that "innumerable cases analogize claims to the 'metes and bounds' of a real property deed").

^{277.} See Frank H. Easterbrook, *Intellectual Property Is Still Property*, 13 HARV. J.L. & PUB. POL'Y 108, 109 (1990) ("Patents give a right to exclude, just as the law of trespass does with real property.").

^{278.} See, e.g., Phillips v. AWH Corp., 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc) (recognizing the need for "reasonable certainty and predictability" in claim construction

It is striking that the exclusion concept of patents correlates with the jurisprudential malady that all sides of the recent patent law debates are accused of committing — formalism. This correlation stands as an intriguing indicator of how conceptual property theory may still be at work underneath the roiling normative debates over modern patent doctrine, continuing to influence courts today in the same ways that it influenced the historical evolution of these same doctrines. ²⁷⁹ Of course, correlation is not necessarily causation, and further empirical analysis of the cases and doctrines is necessary to establish with precision the descriptive and normative issues that are determinative in these cases. But this requires first recognizing that the exclusion concept of patents is as relevant to understanding potential problems in modern patent doctrine as is normative analysis, and, unfortunately, scholars and courts have dismissed this first step as "confusion." ²⁸⁰

In assessing the degree to which the exclusion concept of patents is contributing to the current turmoil in patent doctrine, it is important to recognize that conceptual analysis is not exclusive of economic or other forms of analysis. Since property theory does not determine results in all cases, its insights are complementary to other descriptive and normative analyses, such as the concerns already identified in scholarship about the Federal Circuit's self-aggrandizement or its capture by special interests. ²⁸¹ In fact, the definition of a property entitlement in terms of the right to exclude may not produce formalism as a matter of logical necessity, ²⁸² and thus courts may find the exclusion conception of patents appealing given a prior normative commitment

rules); Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 234 F.3d 558, 577–78 (Fed. Cir. 2000) (en banc) (justifying the adoption of absolute rule in prosecution history estoppel given the "certainty and predictability such a bar produces"), *vacated*, 535 U.S. 722 (2002); Cyber Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1475 (Fed. Cir. 1998) (en banc) (Rader, J., concurring in part and dissenting in part) (justifying treating claim construction as a matter of law given the "early certainty about the meaning of a patent claim"); Litton Sys., Inc. v. Honeywell, Inc., 87 F.3d 1559, 1580 (Fed. Cir. 1996) (Bryson, J., concurring in part and dissenting in part) ("Patent counselors should be able to advise their clients The consequences of advice that turns out to be incorrect can be devastating, and the costs of uncertainty — unjustified caution or the devotion of vast resources to the sterile enterprise of litigation — can be similarly destructive."), *vacated*, 520 U.S. 1111 (1997).

^{279.} See supra note 256 and accompanying text.

^{280.} See supra notes 90-91 and accompanying text.

^{281.} See, e.g., Timothy R. Holbrook, The Supreme Court's Complicity in Federal Circuit Formalism, 20 SANTA CLARA COMPUTER & HIGH TECH. L.J. 1, 5 (2003) ("The Federal Circuit has promoted an agenda favoring the creation of bright-line legal rules which arguably aggrandize power at the appellate level and which create unfairness to various parties for the sake of certainty in the law."); John R. Thomas, Formalism at the Federal Circuit, 52 AM. U. L. REV. 771, 792–94 (2003) (discussing how the Federal Circuit's "jurisprudence increasingly reflects a trend towards adjudicative rule formalism," which is explained in part as a response to the "lawyers [who] draft the exclusionary rules that are patent claims").

^{282.} See Eric R. Claeys, Property 101: Is Property a Thing or a Bundle?, 32 SEATTLE U. L. REV. 617 (2009) (book review) (explaining that the right to exclude is sufficiently plastic to permit competing methods of adjudication, including both formal rules and granular standards).

to formalism. Such chicken-or-egg questions about the role of conceptual and normative commitments in legal analysis, though, are beyond the scope of the preliminary discussion here. This Part establishes only the analytically prior premise that the exclusion concept of patents correlates with potential problems in modern patent law — a correlation deserving of further study by scholars and courts.

The second reason why the exclusion concept of patents may be important in patent doctrine is that mistaken conceptual theory can frustrate clear normative analysis, such that scholarship and court decisions become incapable of focusing on the relevant descriptive or policy issues that necessarily inform legal doctrine. Lawyers, jurists, and scholars who misunderstand the conceptual structure of the long-standing doctrines with which they work may substantially change the law, believing in good faith they are making the law conform better with its alleged foundational legal principles. If lawyers and jurists want to alter patent doctrine, they should be candid, especially with patentees, that they are making changes. Otherwise, they risk disrupting what the Supreme Court recently referred to as "the legitimate expectations of inventors in their property," a not-too-subtle reference to takings doctrine under the Fifth Amendment.

More important, they must justify these changes with conceptual and normative arguments and each of these arguments must earn its own keep. Law and economics, for instance, has long claimed as its principal theoretical strength its ability to offer a comprehensive, internally consistent descriptive account of the structure of the Anglo-American legal system. ²⁸⁶ It also rightly recognizes that this descriptive account of doctrine is analytically distinct from a normative account, and that each must stand on its own two feet. ²⁸⁷ Given the widespread acceptance of the exclusion concept of patents, scholars and courts have focused only on the normative aspects of the modern doctrinal debates, assuming the validity of their necessary conceptual

^{283.} See, e.g., Burk & Lemley, supra note 13, at 1597 ("While there have been a few theories of patent law based in moral right, reward, or distributive justice, they are hard to take seriously as explanations for the actual scope of patent law."); Kieff, supra note 10, at 697 ("The foundation for the American patent system is purely economic.").

^{284.} Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 739 (2002).

^{285.} See Mossoff, supra note 152, at 693–95 (discussing how the Festo Court was using well-known concepts from takings doctrine in this case).

^{286.} See, e.g., RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 25 (6th ed. 2003) (claiming that "the common law is best (not perfectly) explained as a system for maximizing the wealth of society"); William M. Landes & Richard A. Posner, *The Positive Economic Theory of Tort Law*, 15 GA. L. REV. 851 (1981) (discussing the "positive theory" of law and economics and applying it to descriptively analyze past cases).

^{287.} See Richard A. Posner, Some Uses and Abuses of Economics in Law, 46 U. CHI. L. REV. 281, 285 (1979) ("The distinction between positive and normative, between explaining the world as it is and trying to change it to make it better, is basic to understanding the law-and-economics movement.").

priors.²⁸⁸ This assumption may no longer be tenable, as the exclusion concept of patents needs to be validated on its own conceptual terms. Scholars and courts may thus be bootstrapping the validity of the descriptive claim that patents secure only a right to exclude by their normative analyses of patent doctrines. This, however, begs the question, because these normative analyses occur within a conceptual framework that determines in part the relevant analytical inputs and outputs.

These two insights about the value of conceptual property theory in patent law do not mean that the right to exclude is irrelevant to patent law — this legal right certainly accounts for the all-too-important infringement doctrines available to a patentee. The function of these two insights is more limited in its scope: They simply reinforce this Article's thesis that the exclusion concept of patents is analytically weak in explaining the structure of the American patent system. This conceptual infirmity is important because it may be exerting an unacknowledged influence in the increasingly turbulent debates over patent doctrine and policy.

It is also important to realize that conceptual property theory is by no means the exclusive cause of misplaced formalism or other potential problems in patent law. This Article's thesis is not reductionist. It maintains only that the conceptual content of a legal entitlement, such as a patent, is relevant in defining the doctrinal framework that secures that entitlement. It is also relevant to the normative metrics employed by scholars in evaluating these doctrines. In fact, scholars have long recognized that Wesley Hohfeld's conceptual analysis of legal entitlements heavily influenced modern American property law. ²⁹⁰ The same may be said of modern patent law, and this influence is deserving of further empirical study in patent scholarship.

^{288.} See supra note 23 and accompanying text.

^{289.} See, e.g., King Instruments Corp. v. Perego, 65 F.3d 941, 947 (Fed. Cir. 1995) ("An act of infringement... trespasses on this right to exclude."); Markman v. Westview Instruments, Inc., 52 F.3d 967, 997 (Fed. Cir. 1995) (en banc) (Mayer, J., concurring) (noting 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"); MERGES & DUFFY, supra note 32, at 26 (noting that "innumerable cases analogize claims to the 'metes and bounds' of a real property deed").

^{290.} See Denise R. Johnson, Reflections on the Bundle of Rights, 32 VT. L. REV. 247, 251–57 (2007) (describing Hohfeld's "now-famous" work in establishing the bundle conception in property theory, which "is essential to an economic analysis of property"); Merrill & Smith, *supra* note 190, at 365 (recognizing that Hohfeld "provided the intellectual justification" for the bundle metaphor, and that "[d]ifferent writers influenced by realism took the metaphor to different extremes").

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V. CONCLUSION

Almost a century ago, Wesley Hohfeld famously warned the legal profession that the absence of conceptual clarity in legal entitlements can cause confusion and indeterminacy in the law. Hohfeld's conceptual analysis of legal entitlements, especially of property, established that the descriptive content of a legal entitlement can influence the ways in which courts and scholars define and justify the legal rules that protect these entitlements. Of course, conceptual theory does not necessarily decide particular cases, but it can impose descriptive blinders on courts and scholars that subtly tilt their seemingly more salient normative analyses of legal doctrine.

Patent law is no exception to the fundamental role of conceptual analysis in legal doctrine. The widespread acceptance of the exclusion concept of patents has resulted in a prioritizing of normative analysis in both patent scholarship and court decisions, but this takes place within a conceptual framework that shapes this important discourse. In this respect, the exclusion concept of patents may have conceptually blinded the first forays into the economic analysis of patents by excluding on conceptual grounds certain property rights from the normative evaluation of the patent system. ²⁹³

The unacknowledged role of conceptual theory within legal doctrine is not unique to patent law. Professors Thomas Merrill and Henry Smith have recently critiqued the normative economic analysis of property as having "blinded itself to certain features of property regimes — features that are important and cannot be accounted for on any other terms," 294 and Professor Smith has carried this argument into intellectual property theory. However, they are doing so from within the framework of the legal realists' exclusion concept of prop-

^{291.} See Hohfeld, supra note 192, at 770 (explaining that "correct analysis... is... essential to the clear apprehension of the important teleological aspects of the various jural problems involved").

^{292.} See, e.g., Ronald Dworkin, Hart and the Concepts of Law, 119 HARV. L. REV. F. 95, 100 (2006), http://www.harvardlawreview.org/forum/issues/119/jan06/dworkin.pdf ("Wesley Newcomb Hohfeld's 1919 book Fundamental Legal Conceptions laid out the important logical distinctions on which [H.L.A.] Hart's account rested, and many other earlier legal philosophers — including, most notably, Hans Kelsen — also stressed the importance of the systematic organization of a legal system."); G. Edward White, The American Law Institute and the Triumph of Modernist Jurisprudence, 15 LAW & HIST. REV. 1, 26 (1997) (noting that "as both a jurisprudential and a cultural figure Hohfeld was an important presence in the . . . founding" of the American Law Institute).

^{293.} See, e.g., Kieff & Paredes, supra note 12, at 198 (arguing that "patents only give a right to exclude" and thus any "right to use is derived from sources external to IP law").

^{294.} Merrill & Smith, *supra* note 190, at 398.

^{295.} See Smith, supra note 51, at 1776 (advancing an exclusion-based theory but none-theless recognizing that "the case against (or for) intellectual property rights cannot be derived from economic reasoning alone — as the emphasis on the nonrivalness of information or on incentives sometimes implies").

erty.²⁹⁶ It is time to reconsider whether the exclusion concept of patents is analytically flawed and whether it may have blinded modern patent jurisprudence to important conceptual and normative features of the American patent system.

^{296.} See id.; Merrill, supra note 27, at 730 ("[T]he right to exclude others is more than just 'one of the most essential' constituents of property—it is the sine qua non.").