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Reversing the Reversal Rate: Using Real Property Principles to Guide Federal Circuit Patent Jurisprudence

Paul M. Schoenhard
Ropes & Gray LLP, schoenhard@gmail.com

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Cover Page Footnote

Amy E.L. Schoenhard, Kevin J. Post, Jason W. Melvin, John A. Schoenhard, and Cassandra H. Welch for their invaluable comments; and to Tracy Hubbell for her research assistance.

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Paul M. Schoenhard*

“I am convinced that shuffling our current precedent merely continues a charade”

—Judge Haldane R. Mayer¹

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* J.D., Harvard Law School, 2003; B.A., Dartmouth College, 2000. The Author is an Associate in the Fish & Neave IP Group of Ropes & Gray LLP in Washington, DC. He may be contacted at Paul.Schoenhard@ropesgray.com. Many thanks to Amy E.L. Schoenhard, Kevin J. Post, Jason W. Melvin, John A. Schoenhard, and Cassandra H. Welch for their invaluable comments; and to Tracy Hubbell for her research assistance. The thoughts and positions expressed in this Article are those of the Author and do not represent the views of this Journal, or Ropes & Gray LLP or its clients.

¹ Phillips v. AWH Corp., 376 F.3d 1382, 1384 (Fed. Cir. 2004) (order for reh’g en banc) (Mayer, C.J., dissenting).

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INTRODUCTION

There is a pervasive perception that the Court of Appeals for the Federal Circuit reverses district court rulings in patent cases at an inordinately high rate. This view has led to a mounting battle cry for specialized patent judges in each of this nation's ninety-four federal district courts. But the creation of a specialized patent judiciary at the district-court level is an inefficient solution to a non-existent problem. By the numbers, existing district court judges are reversed no more frequently in patent cases generally than they are in other areas of their dockets.² And there is no evidence that specialized judges would perform better.³ If one focuses, however, only on the rate at which district court decisions involving claim construction are reversed on appeal, the figure is higher than for patent cases generally.⁴ As a result, to increase certainty and predictability in patent cases, it is desirable to target the Federal Circuit's reversal rate for claim construction determinations in particular.

This Article offers an approach to lowering the patent claim construction reversal rate by reconsidering the role of intent and other underlying facts in patent claim construction through the lens of real property law. Part I details (1) the Federal Circuit's reversal rate of district court decisions both generally and in claim construction cases in particular; and (2) existing proposals to reduce that rate. With reference to well-settled principles of real property law, I explain in Part II how inquiries into intent and other

² See *infra* notes 5–10 and accompanying text.

³ See *infra* note 21.

⁴ See *infra* notes 11–14 and accompanying text.

underlying facts are already a critical part of patent claim construction and may be recognized as such without violating the public notice function of patent claims. Finally, I conclude in Part III that explicit consideration of intent and other underlying facts during the process of patent claim construction would require the application of appropriate deferential standards on appeal, thus lowering the rate at which lower court determinations are reversed.

I. POINTING FINGERS

A. *What Is the Reversal Rate?*

It is first necessary to sort between fact and fiction when it comes to the rate at which the Federal Circuit reverses district court decisions. A variety of reversal rates have been published in academic journals and by the legal press, varying wildly from 22 percent⁵ to approximately 50 percent⁶ of all patent cases being reversed. These numbers have caught the eye of Congress, where a variety of patent reform bills have been considered recently. Among their proponents is Rep. Darrell Issa (R-Ca.), who has been quoted as stating: “The reversal rate is so high that it’s almost like a flip of a coin.”⁷ It is no small wonder that statements like these are cause for some concern. But complaints of a high reversal rate do not accurately reflect our present reality.

⁵ Kimberly A. Moore, *Judge, Juries and Patent Cases—An Empirical Peek Inside the Black Box*, 99 MICH. L. REV. 365, 397, 399 (2000) (finding that 78% of trial court judgments appealed to the Federal Circuit between 1983 and 1999 had all issues affirmed).

⁶ See Stephen P. Swinton & Adam A. Welland, *Patent Injunction Reform and the Overlooked Problem of ‘False Positives’*, 70 PAT. TRADEMARK & COPYRIGHT J. 337, n.4 (“Oft-cited published empirical studies suggest a reversal rate between 34 and 47.3 percent.”) (citing Christian A. Chu, *Empirical Analysis of the Federal Circuit’s Claim Construction Trends*, 16 BERKELEY TECH. L.J. 1075, 1098 (2001)); see also Swinton & Welland, *supra*, at 337 (“Depending on the analysis employed and period examined, reversal rates for trial court judgments in patent infringement cases range from 30 to more than 60 percent.”).

⁷ Erik Larson, *Bill Would Create Patent “Rocket Dockets” Within Courts*, IP LAW360, Feb. 7, 2006, <http://ip.law360.com/Secure/ViewArticle.aspx?id=5245>. Rep. Issa is the sponsor of H.R. 5418. See *infra* note 20.

Considering all district court appeals to the Federal Circuit,⁸ Figure 1 depicts a precipitous drop in the Federal Circuit's reversal rate over the past eight years—stabilizing at 13% in 2004 and 2005. Contrary to common belief, reversal rates above 20% have not been seen since 2002.⁹ Indeed, over the past few years, the Court's reversal rate has fallen in line with other courts of appeal, which reverse on average 12–13% of appealed district court decisions in private civil cases. District court judges are thus reversed no more frequently in patent cases than elsewhere in their dockets. It follows that there is not a systemic failure at the district court level in patent cases.

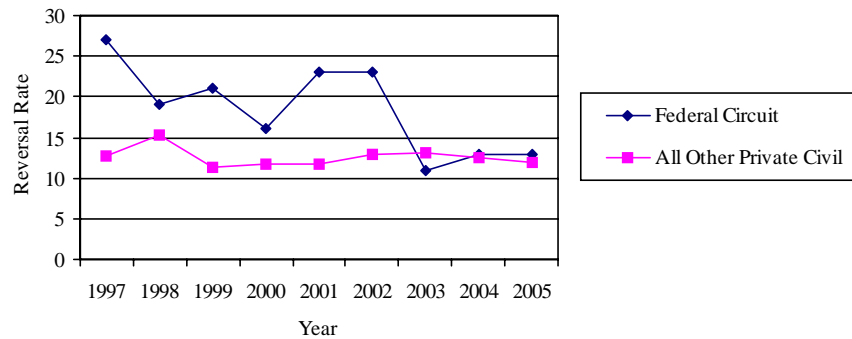


Figure 1: Percentage of Terminated District Court Appeals Reversed¹⁰

⁸ Given the Federal Circuit's limited jurisdiction over district court appeals, *see* 28 U.S.C. §§ 1295, 1338, 1346 (2000) (granting the Federal Circuit jurisdiction over appeals from the district courts in patent cases and other limited issues, for example, Plant Variety Protection Act cases), and the small percentage of the Federal Circuit's docket that may be attributed to non-patent district court appeals, it is a safe assumption that the figures cited here are representative of the Federal Circuit's reversal rate of district court appeals in patent cases.

⁹ Note that Prof. Moore's detailed study on this topic, Moore, *Judge, Juries and Patent Cases*, *supra* note 5, was published in 2000 and was based on statistics for years before the Federal Circuit's reversal rate decreased to its current level.

¹⁰ The data for this Figure were extracted from the Administrative Office of the U.S. Courts' annual reports for the fiscal years ending on September 30 of the years indicated. For 1997 data, see Administrative Office of the U.S. Courts, JUDICIAL BUSINESS OF THE UNITED STATES COURTS—1997, at tbl.B-5, *available at* http://www.uscourts.gov/judicial_business/b05sep97.pdf; tbl.B-8, *available at* http://www.uscourts.gov/judicial_business/b08sep97.pdf. For 1998 data, see Administrative Office of the U.S. Courts, JUDICIAL BUSINESS OF THE UNITED STATES COURTS—1998, at tbl.B-5, *available at* <http://www.uscourts.gov/dirprt98/b05sep98.pdf>; tbl.B-8, *available at* <http://www.uscourts.gov/dirprt98/b08sep98.pdf>. For 1999 data, see Administrative Office of the U.S. Courts, JUDICIAL BUSINESS OF THE UNITED STATES COURTS—1999, at

Within the narrow area of patent claim construction, however, district court decisions are reversed with greater frequency. Specifically, although there is little agreement on the precise rate of reversal in claim construction cases—reported statistics vary from 34.5%¹¹ to 40%,¹² and are even as high as 71%¹³—there is

tbl.B-5, available at <http://www.uscourts.gov/judbus1999/b05sep99.pdf>; tbl.B-8, available at <http://www.uscourts.gov/judbus1999/b08sep99.pdf>. For 2000 data, see Administrative Office of the U.S. Courts, JUDICIAL BUSINESS OF THE UNITED STATES COURTS—2000, at tbl.B-5, available at <http://www.uscourts.gov/judbus2000/appendices/b05sep00.pdf>; tbl.B-8, available at <http://www.uscourts.gov/judbus2000/appendices/b08sep00.pdf>. For 2001 data, see Administrative Office of the U.S. Courts, JUDICIAL BUSINESS OF THE UNITED STATES COURTS—2001, at tbl.B-5, available at <http://www.uscourts.gov/caseload2001/tables/b05mar01.pdf>; tbl.B-8, available at <http://www.uscourts.gov/caseload2001/tables/b08mar01.pdf>. For 2002 data, see Administrative Office of the U.S. Courts, JUDICIAL BUSINESS OF THE UNITED STATES COURTS—2002, at tbl.B-5, available at <http://www.uscourts.gov/judbus2002/appendices/b05sep02.pdf>; tbl.B-8, available at <http://www.uscourts.gov/judbus2002/appendices/b08sep02.pdf>. For 2003 data, see Administrative Office of the U.S. Courts, JUDICIAL BUSINESS OF THE UNITED STATES COURTS—2003, at 94–97 tbl.B-5, available at <http://www.uscourts.gov/judbus2003/appendices/b5.pdf>; 111 tbl.B-8, available at <http://www.uscourts.gov/judbus2003/appendices/b8.pdf>. For 2004 data, see Administrative Office of the U.S. Courts, JUDICIAL BUSINESS OF THE UNITED STATES COURTS—2004, at 100–03 tbl.B-5, available at <http://www.uscourts.gov/judbus2004/appendices/b5.pdf>; 117 tbl.B-8, available at <http://www.uscourts.gov/judbus2004/appendices/b8.pdf>. For 2005 data, see Administrative Office of the U.S. Courts, JUDICIAL BUSINESS OF THE UNITED STATES COURTS—2005, at 126–29 tbl.B-5, available at <http://www.uscourts.gov/judbus2005/appendices/b5.pdf>; 143 tbl.B-8, available at <http://www.uscourts.gov/judbus2005/appendices/b8.pdf>.

¹¹ Kimberly A. Moore, *Markman Eight Years Later: Is Claim Construction More Predictable?*, 9 LEWIS & CLARK L. REV. 231, 233 (2005) [hereinafter Moore, *Markman Eight Years Later*] (“The reversal rate (rate at which the Federal Circuit determined the claim construction was wrong) for appealed claim terms from 1996, after *Markman* was decided, through 2003 is 34.5%.”); see also Erik Larson, *Special IP Trial Courts A Bad Idea, Lawyers Say*, IP LAW360, Feb. 1, 2006, <http://ip.law360.com/Secure/ViewArticle.aspx?id=5183> (“Although the reversal rate appears to be dropping slowly, it is still around 35%.”).

¹² *Cybor Corp. v. FAS Tech., Inc.*, 138 F.3d 1448, 1476 (Fed. Cir. 1998) (Rader, J., dissenting) (citing a statistic of 40% for claim construction reversals); see also Steve Seidenberg, *Federal Circuit Clears Up Patent-Interpretation Rules*, INSIDECOUNSEL, Oct. 2005, at 28 (quoting a figure of 35–40% for claim construction reversals), available at http://www.insidecounsel.com/issues/insidecounsel/15_167/ip/43-1.html.

¹³ Symposium, *A Panel Discussion: Claim Construction From The Perspective of The District Judge*, 54 CASE W. RES. L. REV. 671, 680–82 (2004) (“Recently, Matt Powers, an attorney in California, conducted a few studies and came up with some staggering numbers. His numbers show that reversal of claim construction decisions in the last six

general agreement that the Federal Circuit is more likely to reverse decisions involving claim construction than otherwise. And it is most commonly in the narrow context of patent claim construction that people have attributed the Federal Circuit's reversal rate to failure at the trial court level.¹⁴

*B. The Conventional Wisdom*¹⁵

Trial courts are a convenient target. When a trial court is reversed, that means it got it wrong. Right? Not necessarily. But for now, let's assume the trial court got it wrong.

The convenient solution is to replace the existing trial courts. Everywhere we turn, we see specialized patent courts.¹⁶ For

months is running about seventy-one percent. Over the last year, the reversal rate has been fifty-eight percent.”).

¹⁴ See, e.g., Seidenberg, *supra* note 12, at 28, available at http://www.insidecounsel.com/issues/insidecounsel/15_167/ip/43-1.html (“Unfortunately, when it comes to construing patents, the courts’ track record is poor.”); Kimberly A. Moore, *Are District Court Judges Equipped to Resolve Patent Cases?*, 15 HARV. J.L. & TECH. 1, 27–28 (2001) [hereinafter Moore, *District Court Judges*] (“The high reversal rate on claim construction is problematic. It creates uncertainty in patent cases and in patent claim scope analysis until the Federal Circuit review is complete. . . . The unintended consequence of having district court judges construe patent claim terms as a question of law is that, rather than promoting settlement, it increases uncertainty and prolongs litigation because parties hold out for Federal Circuit review.”).

¹⁵ See STEVEN D. LEVITT & STEPHEN J. DUBNER, *FREAKONOMICS* 89–90 (2005):

It was John Kenneth Galbraith, the hyperliterate economic sage, who coined the phrase “conventional wisdom.” He did not consider it a compliment. “We associate truth with convenience,” he wrote, “with what most closely accords with self-interest and personal well-being or promises best to avoid awkward effort or unwelcome dislocation of life. We also find highly acceptable what contributes most to self-esteem.” Economic and social behavior, Galbraith continued, “are complex, and to comprehend their character is mentally tiring. Therefore we adhere, as though to a raft, to those ideas which represent our understanding.”

So the conventional wisdom in Galbraith’s view must be simple, convenient, comfortable, and comforting—though not necessarily true. It would be silly to argue that the conventional wisdom is *never* true. But noticing where the conventional wisdom may be false—noticing, perhaps, the contrails of sloppy or self-interested thinking—is a nice place to start asking questions.

Id. (emphasis in original).

¹⁶ See *Improving Federal Court Adjudication of Patent Cases: Oversight Hearing Before the H. Subcomm. on Courts, the Internet, and Intellectual Property of the Comm. on the Judiciary*, 109th Cong. (2005) (statement of Kimberly A. Moore, Prof. of Law, George Mason University School of Law), available at <http://judiciary.house.gov/>

example, patent lawsuits in the United Kingdom are heard by specialized judges of the Patents Court or, for smaller claims, the Patent County Courts.¹⁷ In response to international outcry over its disregard for intellectual property rights, China recently established a new Judicial Court of Intellectual Property to handle IP cases on a nationwide basis.¹⁸ And to promote even greater international uniformity, there has been an ongoing call for a unified European Patent Court.¹⁹

It is only natural that proposals for a specialized patent judiciary in the United States would follow,²⁰ especially in light of the perceived high reversal rate. But specialized patent trial judges are not the answer. There is no reason to believe specialized trial judges would perform any better.²¹ Moreover, our initial assumption that trial court judges are reversed because they

OversightTestimony.aspx?ID=470 (“No other country allows lay juries to decide patent cases. In fact, many countries no longer have patent cases decided by generalist judges and have instead created specialized patent trial courts such as Germany, China, Japan, the United Kingdom, Australia, New Zealand, Singapore, Zimbabwe, Jamaica, Kenya, Thailand, Korea and Turkey.”). *But see* Erik Larson, *Special IP Trial Courts a Bad Idea, Lawyers Say*, IP LAW360, Feb. 1, 2006, <http://www.iplaw360.com/Secure/ViewArticle.aspx?id=5183> (“Only six countries worldwide have developed specialized courts that exclusively hear intellectual property cases, a survey by the International Bar Association’s Intellectual Property and Entertainment Committee has found.”).

¹⁷ See Phillippe Signore, *On the Role of Juries in Patent Litigation (Part I)*, 83 J. PAT. & TRADEMARK OFF. SOC’Y 791, 794 (2001) (“The judges who hear the patent cases are designated to hear all patent cases and thus become familiar with, if not specialized in, patent issues. English juries are not available in patent cases, or in most other civil cases.”).

¹⁸ See Dean Visser, *Update 2: China Creates Court for Piracy Cases*, ASSOC. PRESS, Mar. 10, 2006.

¹⁹ See generally Seth Cannon, Note, *Achieving the Benefits of a Centralized Community Patent System at Minimal Cost*, 35 CASE W. RES. J. INT’L L. 415 (2003).

²⁰ See, e.g., *To Establish a Pilot Program in Certain United States District Courts to Encourage Enhancement of Expertise in Patent Cases Among District Judges*, H.R. 5418, 109th Cong. 1st Sess. (2006). The call for specialized trial court judges has come amidst a flurry of patent reform efforts. See generally William C. Rooklidge, *Reform of the Patent Laws: Forging Legislation Addressing Disparate Interests*, 88 J. PAT. & TRADEMARK OFF. SOC’Y 9 (2006) (discussing recent patent reform legislation).

²¹ See Paul M. Schoenhard, *Judging Trial Judges: Despite What Professor Kimberly Moore Told Congress in October, There Is No Need for Specialized Patent Judges*, IP L. & BUS., Mar. 2006, at 22; *Improving Federal Court Adjudication of Patent Cases: Oversight Hearing Before the H. Subcomm. on Courts, the Internet, and Intellectual Property of the Comm. on the Judiciary*, 109th Cong. (2005) (summary of statement of Hon. T.S. Ellis, III), available at <http://judiciary.house.gov/media/pdfs/ellis100605.pdf>.

incorrectly construe patent claims ignores the possibilities: (1) that the Federal Circuit may erroneously construe patent claims and, as a result, reverse claim construction decisions that are otherwise correct; or (2) that the Federal Circuit may reverse district court claim constructions on the basis of underlying factual findings about which reasonable people may reasonably disagree.

If, instead of pointing fingers, we wish to instill greater certainty into patent cases and to lower the rate of reversal, we need to look to the law itself.²² Specifically, a comparison of the nature of claims and how claims are construed in both patent and real property law can help us understand that the consideration of underlying facts, such as intent, is (and need be) properly part of any claim construction analysis. Recognition of these inquiries as factual rather than legal does not violate the vital public notice function of these property claims and would not require a substantial departure from current practice. And deferential review of these findings of fact will then lead to a lower reversal rate on appeal.

II. FINDING ANSWERS TO QUESTIONS OF LAW AND FACT

The obsolete doctrines of our laws are frequently the foundation upon which what remains is erected; and it is impracticable to comprehend many rules of the modern

²² As then-Chief Judge Mayer commented in his dissent to the Federal Circuit's order for en banc rehearing in *Phillips v. AWH Corp.*: "[u]ntil the court is willing to reconsider its holdings in *Markman* . . . and *Cybor* . . . , that claim construction is a pure question of law subject to de novo review in this court, any attempt to refine the process is futile." *Phillips v. AWH Corp.*, 376 F.3d 1382, 1384 (Fed. Cir. 2004) (order for reh'g en banc) (Mayer, C.J., dissenting). See also *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 2006 WL 3378475, at *1 (Fed. Cir. Nov. 22, 2006) (denying petition for rehearing) (Michel, C.J., dissenting) ("In my view, four practical problems have emerged under the *Markman-Cybor* regime: (1) a steadily high reversal rate; (2) a lack of predictability about appellate outcomes, which may confound trial judges and discourage settlements; (3) loss of the comparative advantage often enjoyed by the district judges who heard or read all of the evidence and may have spent more time on the claim constructions than we ever could on appeal; and (4) inundation of our court with the minutia of construing numerous disputed claim terms (in multiple claims and patents) in nearly every patent case.").

law, in a scholarlike scientific manner, without having recourse to the ancient.²³

A. *Revisiting the Nature of Claims*

All forms of property are built on a framework of exclusive ownership rights. Because disputes tend to arise at the boundaries of property, each piece of property must be defined by its boundaries,²⁴ so-called “claims.” Claims define the fundamental right of property—the right to exclude²⁵—and provide notice of a property right to the public at large. As a result, the legal construction of claims—the determination of the property owner’s boundaries—is the first step of any legal inquiry involving property, both in patent law and in the law of real property.²⁶

1. Patent Claims

“It is a ‘bedrock principle’ of patent law that the claims of a patent define the invention to which the patentee is entitled the

²³ WILLIAM BLACKSTONE, 2 COMMENTARIES *44.

²⁴ See, e.g., 1 JOYCE PALOMAR, PATTON AND PALOMAR ON LAND TITLES 285 (3d ed. 2003) (“Both for engineering and legal purposes, land is described by describing its boundaries.”).

²⁵ For patents, see U.S. CONST. art. I, § 8, cl. 8 (“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”). This enumerated power was used at one point to provide patent-holders also with a right to use. See Patent Act of 1793, ch. 11, § 1, 1 Stat. 318, 31821 (1793) (granting to a patentee “the full and exclusive right and liberty of making, constructing, using, and vending to others to be used” the patented invention). But now patent-holders are empowered solely with the right to exclude. See 35 U.S.C. § 154 (2000).

For real property, see Michael A. Carrier, *Cabining Intellectual Property Through a Property Paradigm*, 54 DUKE L.J. 1, 52 (2004) (“The foundational rights of property law are widely recognized to consist of the right to exclude, the right to transfer, and the right to use. Among these rights, the right to exclude is considered the most important.”) (footnotes omitted).

²⁶ See, e.g., *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (*en banc*) (“An infringement analysis entails two steps. The first step is determining the meaning and scope of the patent claims asserted to be infringed.”), *aff’d* 517 U.S. 370 (1995); *Read Corp. v. Portec, Inc.*, 970 F.2d 816, 821 (Fed. Cir. 1992); *SIBIA Neurosciences, Inc. v. Cadus Pharm. Corp.*, 225 F.3d 1349, 1355 (Fed. Cir. 2000) (“The first step in any [patent] invalidity analysis is claim construction, . . .”).

right to exclude.”²⁷ Alternately put, “[a] claim is a group of words defining only the boundary of the patent monopoly.”²⁸ As a result, modern patent law focuses on the claims of a patent.

But claims were not always required by the United States Patent Laws.²⁹ The word “claim” did not appear in patent terminology until Isaiah Jennings’ patent of November 20, 1807, which included the following paragraph:

Such is my invention and I claim the benefit and application of it to every mode of forming thimbles by its instrumentality, whether the machine be worked by the foot of the operator upon a treadle, by his hand through a winch, by a wheel turned by hand labour, or by any mechanism set in motion by water, or by any other power.³⁰

Even this vague claim went above and beyond the requirements of the patent laws at that time.

Before patent claims were required by statute, courts struggled to identify the boundaries of the property rights conveyed with patents. For example, in 1821 Justice Washington confronted a patent in *Isaacs v. Cooper*³¹ which was “so manifestly defective”

²⁷ Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal quotations omitted). See also Datamize, LLC v. Plumtree Software, Inc., 417 F.3d 1342, 1347 (Fed. Cir. 2005) (“the claims perform the fundamental function of delineating the scope of the invention”) (citing Chimie v. PPG Indus., 402 F.3d 1371, 1379 (Fed. Cir. 2005)).

²⁸ General Foods Corp. v. Studiengesellschaft Kohle mbH, 972 F.2d 1272, 1274 (Fed. Cir. 1992) (quoting In re Vogel, 422 F.2d 438 (C.C.P.A. 1970)).

²⁹ The Patent Act of 1793 did not require claims but instead merely “a written description of his invention, and of the manner of using, or process of compounding the same, in such full, clear, and exact terms, as to distinguish the same from all other things before known” Patent Act of 1793, ch. 11, § 3, 1 Stat. 318, 32122 (1793). See Homer J. Schneider, *Claims to Fame*, 71 J. PAT. & TRADEMARK OFF. SOC’Y 143, 144 (1989) (“The Act of 1793 did not call for claims, nor for any examination beyond what you might call a mailroom review.”); Karl B. Lutz, *Evolution of the Claims of U.S. Patents*, 20 J. PAT. OFF. SOC’Y 134, 134 (1938) (“Prior to 1790 nothing in the nature of a claim had appeared either in British patent practice or in that of the American states.”). But see 8 CHISUM ON PATENTS § 8.02 at 38 (2005) (“The courts read [the language of the Patent Act of 1793] as imposing a duty to include language *equivalent* to claims.” (emphasis added)).

³⁰ Karl B. Lutz, *Evolution of the Claims of U.S. Patents*, 20 J. PAT. OFF. SOC’Y 134, 135–36 (1938) (quoting 2 RESTORED PATENTS 161).

³¹ 13 F. Cas. 153 (C.C.D. Pa. 1821) (No. 7096).

that “the nature of the improvement is altogether unintelligible.”³² Similarly, one year later in *Evans v. Eaton*,³³ the Supreme Court held that the specification of a patent to Oliver Eaton did not adequately identify his invention.³⁴ The Court explained that a patent’s specification is “for the purpose of warning an innocent purchaser, or other person using a machine, of his infringement of the patent;”³⁵ The Court concluded that Mr. Eaton’s specification did not serve this purpose, and thus was not entitled to protection.³⁶

Accordingly, Congress sought to inject greater certainty into the boundaries of patent rights. The Patent Act of 1836 required that a patent specification include a portion in which the inventor “shall particularly specify and point out the part, improvement, or combination, which he claims as his own invention or discovery.”³⁷ But even then, patent claims were used to distinguish a patented invention from the prior art³⁸—findings of infringement were often based on a comparison of an accused device to the patentee’s actual product (not to the patent itself).³⁹ And it was not until the Patent Act of 1870 that claims, per se, were statutorily required.⁴⁰

³² *Id.* at 154.

³³ 20 U.S. (7 Wheat.) 356 (1822).

³⁴ *Id.* at 435 (“[I]f the plaintiff’s patent is to be considered as a patent for an improvement upon an existing Hopperboy, it is defective in not specifying that improvement”). *See also* *Evans v. Eaton*, 16 U.S. (3 Wheat.) 454, 518 (1818) (previous ruling in the same case, holding that an inventor must “show the extent of his improvements”).

³⁵ *Evans*, 20 U.S. (7 Wheat.) at 433–34. *See also* *Hogg v. Emerson*, 47 U.S. (6 How.) 437, 484 (1848) (“There are some further and laudable objects in having exactness to this extent, . . . [S]o that the public, while the term continues, may be able to understand what the patent is, and refrain from its use, unless licensed.”).

³⁶ *Evans*, 20 U.S. (7 Wheat.) at 435.

³⁷ Act of July 4, 1836, ch. 357, § 6, 5 Stat. 117, 119.

³⁸ *See* *Lutz*, *supra* note 30, at 140.

³⁹ *See id.* at 147 (footnote omitted) (“During most of this period the claims rarely, if ever, received consideration on the question of infringement. In spite of isolated statements that the claim is binding on the patentee when considering infringement, the latter question was almost universally treated as a question of fact to be decided by the jury from a comparison of the machines of plaintiff and defendant.”). *See also, e.g.*, *Union Paper-Bag Machine Co. v. Murphy*, 97 U.S. 120 (1877).

⁴⁰ Act of 1870, ch. 230, § 26, 16 Stat. 198 (July 8, 1870) (the applicant “shall particularly point out and distinctly claim the part, improvement, or combination which

In the following years, the Supreme Court clarified the “primary importance” of patent claims in cases such as *Merrill v. Yeomans*.⁴¹ In that decision, the Court noted: “It seems to us that nothing can be more just and fair, both to the patentee and to the public, than that the former should understand, and correctly describe, just what he has invented, and for what he claims a patent.”⁴² This notion of fairness accompanying patent disclosure requirements has since been characterized as the “public notice function” of patent claims—“the role of the claims is to give public notice of the subject matter that is protected,”⁴³ and correspondingly, “to apprise the public of what is still open to them.”⁴⁴ To this end, the Supreme Court has commented that “[a patent] monopoly is a property right; and like any property right, its boundaries should be clear. This clarity is essential to promote progress, because it enables efficient investment in innovation. A patent holder should know what he owns, and the public should know what he does not.”⁴⁵

he claims as his invention or discovery”). See also *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 996 (Fed. Cir. 1996) (Mayer, J., concurring).

⁴¹ *Merrill v. Yeomans*, 94 U.S. 568, 570 (1876).

⁴² *Id.* at 573–74.

⁴³ *Univ. of Rochester v. G.D. Searle and Co.*, 358 F.3d 916, 922 n.5 (Fed. Cir. 2004).

⁴⁴ *McClain v. Ortmyer*, 141 U.S. 419, 424 (1891). The public notice function of patent claims will be discussed in greater detail in Part III.C.2., *infra*.

⁴⁵ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 730–31 (2002). See also *Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 922 n.5 (Fed. Cir. 2004) (“[The Federal Circuit] and the Supreme Court have frequently used the term ‘public notice’ in connection with claims and discussion of the doctrine of equivalents, the point being that the public is entitled to notice of what the inventor has claimed and the Patent and Trademark Office has agreed should be the subject of a patent’s limited right to exclude.”).

The written description of a patent also serves a public notice function, which is less relevant to the claim construction issues here. Specifically, “[t]he written description requirement serves a teaching function, as a ‘quid pro quo’ in which the public is given ‘meaningful disclosure in exchange for being excluded from practicing the invention for a limited period of time.’” *Univ. of Rochester*, 358 F.3d at 922 (quoting *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 970 (Fed. Cir. 2002)). This public notice function is directed toward the *future* ability of the public to practice the patented invention rather than the boundaries of the *present* right to exclude. See *Whittemore v. Cutter*, 29 F. Cas. 1120, 1122 (C.C.D. Mass. 1813) (No. 17,600) (“the monopoly is granted upon the express condition, that the party shall make a full and explicit disclosure, so as to enable the public, at the expiration of his patent, to make and use the invention or improvement in as ample and beneficial a manner as the patentee himself. If therefore it be so obscure,

These concepts have driven modern patent law. Under 35 U.S.C. § 2(a)(2), the United States Patent and Trademark Office “shall be responsible for disseminating to the public information with respect to patents and trademarks.”⁴⁶ To accomplish this, the Director is authorized to publish patents, as well as the Official Gazette of the United States Patent and Trademark Office, which identifies patents as they issue.⁴⁷ Claims are now governed by, for example, the second paragraph of 35 U.S.C. § 112, which requires each patent to “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.”⁴⁸

In 1982, Congress passed the Federal Court Improvements Act,⁴⁹ which created and granted exclusive jurisdiction over patent appeals to the United States Court of Appeals for the Federal Circuit.⁵⁰ The Federal Circuit was designed “to improve the administration of the patent law by centralizing appeals in patent cases,”⁵¹ and in many ways it has fulfilled its mission. But despite the uniformity offered by this specialized appeals court, the Federal Circuit continues to struggle to provide clear guidance on issues fundamental to patent claim construction.⁵²

loose, and imperfect, that this cannot be done, it is defrauding the public of all the consideration, upon which the monopoly is granted.” (emphasis added).

⁴⁶ 35 U.S.C. § 2(a)(2) (2000).

⁴⁷ See *id.* §§ 10(a)(1), (3) (2000).

⁴⁸ *Id.* § 112 para. 2 (2000).

⁴⁹ Federal Court Improvement Acts, Pub. L. No. 97-164, 96 Stat. 25 (relevant provisions codified as amended in scattered sections of 28 U.S.C.).

⁵⁰ *Id.* at ch. 7, sec. 127(a), § 1295(a)(4)(A), 96 Stat. 25, 3738 (1982) (codified as amended at 28 U.S.C. § 1295 (2000)). Under the Act the Federal Circuit is composed of “[a]ll Federal judicial districts.” *Id.* at sec. 101, 96 Stat. 25 (1982) (codified as amended at 28 U.S.C. § 41 (2000)).

⁵¹ S. REP. NO. 97-275, at 2 (1981), as reprinted in 1982 U.S.C.C.A.N. 11, 12.

⁵² See, e.g., Gregory S. Maskel, Note, *Product-by-Process Patent Claim Construction: Resolving the Federal Circuit’s Conflicting Precedent*, 17 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 115 (2006) (discussing one example of Federal Circuit claim construction jurisprudence that is in clear conflict).

2. Real Property Claims

Like patent claims,⁵³ real property claims define the boundaries of a property owner's right to exclude.⁵⁴ Real property claims, however, have enjoyed a longer and richer history. As an extreme example, the following description was recorded in a deed in ancient Mesopotamia:

Five gur of corn land, a gan, measured by the great cubit, being reckoned at thirty ka of seed, on the bank of the Bad-Dar Canal, in Bit-Khambi; the upper length to the north, adjoining Bit-Khambi; the lower length to the south, adjoining Bit-Imbiati; the upper width to the west, adjoining Bit-Khambi; the lower width to the east, adjoining the bank of the Bar-Dar Canal.⁵⁵

Both in this ancient description and in modern claims, real property claims commonly “refer to the boundaries of adjoining land, as in ‘west 20 chains, more or less, to the land of Mary Jones.’”⁵⁶ This practice is akin to the early tendency of patent claims to describe a patented invention in relation to the existing art.⁵⁷

⁵³ “The Supreme Court has likened patent claims to the description of real property in a deed ‘which sets the bounds to the grant which it contains.’” *Gen. Foods Corp. v. Studiengesellschaft Kohle mbh*, 972 F.2d 1272, 1274 (Fed. Cir. 1992) (quoting *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 510 (1917)).

⁵⁴ See, e.g., 14 RICHARD R. POWELL & PATRICK J. ROHAN, *POWELL ON REAL PROPERTY* § 81A.05[1][b] (Michael Allan Wolf ed. 2006) (“[A deed’s property description] establishes the boundaries of the property. It determines the area of land in or over which the owner possesses legally enforceable rights, privileges, powers and immunities.”).

⁵⁵ WALTER G. ROBILLARD & LANE J. BOUMAN, *CLARK ON SURVEYING AND BOUNDARIES* § 1.01, at 4 (7th ed. 1997) (quoting *BABYLONIAN BOUNDARY STONES IN THE BRITISH MUSEUM* xiii (L. King ed. 1912)). See also 14 POWELL & ROHAN, *supra* note 54, § 81A.05[2][b][i] (“The oldest method of land descriptions in this country is the metes and bounds description. Its usage goes back to colonial times.”).

⁵⁶ WILLIAM B. STOEBOCK & DALE A. WHITMAN, *THE LAW OF PROPERTY* § 11.2, at 820–21 (3d ed. 2000) (“The adjoining land may be thought of as an artificial monument.”). See also 1 JOYCE PALOMAR, *PATTON AND PALOMAR ON LAND TITLES* § 128, at 331–33 (3d ed. 2003) (discussing the description of property by reference to adjoining lands); Dean T. Lemley, Note, *Due Care in Drafting Real Property Descriptions*, 7 *CLEV.-MARSHALL L. REV.* 324, 342 (1958) (“A deed may constitute a sufficient description of the land conveyed by stated that it is bounded by, or adjoins lands belonging to named persons.”).

⁵⁷ See *supra* notes 37–38 and accompanying text.

Although we have grown accustomed to thinking of real property in terms of recorded plats,⁵⁸ “[t]he oldest method of describing land is by describing the lines that constitute its boundaries.”⁵⁹ So-called “metes and bounds” descriptions can be highly complex and are susceptible to error.⁶⁰ Stoebuck and Whitman explain the difficulties these descriptions raise:

The earliest “metes and bounds” descriptions relied heavily on natural monuments. In older deeds, references such as “beginning at the great white oak tree,” “along Mill Creek 50 chains,” or the like were very common. The lack of permanence of these monuments sometimes created severe problems for later buyers and their counsel; if the tree were removed or the creek changed course, it might be virtually impossible to locate the boundaries. Artificial or manmade monuments, such as roads, bridges, fences, stakes, and posts are more widely used today, but are subject to the same objection to some degree. Yet some use of monuments is essential, since present technology does not permit sufficiently precise location of points on the earth by means of astronomical measurement of latitude and longitude.⁶¹

Like modern patent law, a firmly rooted notion in real property law is that “deeds, to be valid, must describe or otherwise identify the land affected.”⁶² Such descriptions, and corresponding

⁵⁸ “The term ‘plat’ as employed technically refers to the drawing which represents the lines surveyed, established, retraced, or resurveyed. It shows the direction and length of each of such lines, the relation to the adjoining official surveys, and the boundaries, description, and area of each parcel of land.” Carl E. Heck, Comment, *Fixing Limits, and Surveying Land*, 28 LA. L. REV. 625, 628 (1968).

⁵⁹ 1 PALOMAR, *supra* note 56, § 127, at 321. See also ROBILLARD & BOUMAN, *supra* note 55, § 4.04, at 10910 (“Metes and bounds are the most ancient form of description known to man. Descriptions and monuments of land were recorded as early as 1000 B.C., and some are recoverable today.”).

⁶⁰ See ROBILLARD & BOUMAN, *supra* note 55, § 4.04, at 10910 (“As a general rule, most surveyors agree that metes and bounds surveys are difficult to retrace The metes and bounds survey system defies the orderly mind.”).

⁶¹ WILLIAM B. STOEBUCK & DALE A. WHITMAN, *THE LAW OF PROPERTY* § 11.2, at 820 (3d ed. 2000).

⁶² *Id.* at 819. See also Dean T. Lemley, Note, *Due Care in Drafting Real Property Descriptions*, 7 CLEV.-MARSHALL L. REV. 324, 324 (1958) (“[T]he legal description of

recording statutes, are designed to serve a public notice function similar to that served by a patent's claims.⁶³

Real property claims are thus similar in many ways to patent claims, both in structure and in purpose. As a result, real property law and its rich history can provide insights into a number of issues confronting patent law, including fundamental questions of patent claim construction, such as the distinction between law and fact.

B. The Current Approach to the Law-Fact Distinction

No two terms of legal science have rendered better service than “law” and “fact.” . . . They readily accommodate themselves to any meaning we desire to give them What judge has not found refuge in them? The man who could succeed in defining them would be a public enemy.⁶⁴

1. The Denial of Underlying Facts in Patent Claim Construction

Now a decade old, the Federal Circuit's decision in *Markman I* continues to control patent law and practice, but the court's treatment of underlying facts during claim construction remains unclear. In *Markman I*, the Federal Circuit held that “the interpretation and construction of patent claims, which define the scope of the patentee's rights under the patent, is a matter of law exclusively for the court.”⁶⁵ Writing for the majority, Chief Judge Archer explained:

“The reason that the courts construe patent claims as a matter of law and should not give such task to the jury as a factual matter is straightforward: It has long been and

the deed must be sufficient to describe the real estate intended to be conveyed so that examination of the record title alone will disclose those elements of a description which will distinguish the land conveyed from all other land in the world.”)

⁶³ Lemley, *supra* note 62, at 325 (“[S]ince the apparent purpose is the recording of the instrument, draft such a description as will preclude any confusion or misconception as to the identity of the real estate, from the public records alone.” (emphasis added)). See *supra* notes 43–45 and accompanying text; see also Part III.C.2., *infra*.

⁶⁴ LEON GREEN, JUDGE AND JURY 270 (1930).

⁶⁵ *Markman v. Westview Instruments, Inc. (Markman I)*, 52 F.3d 967, 970–71 (Fed. Cir. 1995) (en banc).

continues to be a fundamental principle of American law that ‘the construction of a written evidence is exclusively with the court.’”⁶⁶

The *Markman I* decision then denied the existence of underlying factual inquiries beneath the legal conclusion.⁶⁷

But the law-fact distinction in patent claim construction and the precedential effect of the majority’s position was questionable.⁶⁸ Judge Rader, for example, noted in concurrence: “This court’s extensive examination of subsidiary fact issues is dicta.”⁶⁹ On further appeal to the Supreme Court, a unanimous bench affirmed the Federal Circuit’s decision, but did not directly decide the issue of whether underlying facts may be considered in patent claim construction⁷⁰ and recognized that claim construction “falls somewhere between a pristine legal standard and a simple historical fact.”⁷¹

Two years later, in *Cybor Corp. v. FAS Technologies, Inc.*,⁷² the Federal Circuit sought to resolve two lines of cases that had diverged with respect to their treatment of underlying facts in patent claim construction.⁷³ Denying that district court judges

⁶⁶ *Id.* at 978 (internal citations omitted).

⁶⁷ *Id.* at 981 (“Through this process of construing claims . . . and resolving disputes *en route* to pronouncing the meaning of claim language as a matter of law . . . , the court is *not* crediting certain evidence over other evidence or making factual evidentiary findings.” (emphasis in original)).

⁶⁸ As will be discussed in greater detail below, Judges Mayer and Newman disagreed strongly with the court’s *en banc* treatment of subsidiary fact issues. *See id.* at 989–98 (Mayer, J., concurring); *id.* at 999–1026 (Newman, J., dissenting).

⁶⁹ *Id.* at 998 (Rader, J., concurring).

⁷⁰ *Markman v. Westview Instruments, Inc. (Markman II)*, 517 U.S. 370, 384 n.10 (1996) (“Because we conclude that our precedent supports classifying the question [of patent claim construction] as one for the court, we need not decide . . . the extent to which the Seventh Amendment can be said to have crystallized a law/fact distinction.”).

⁷¹ *Id.* at 388 (quoting *Miller v. Fenton*, 474 U.S. 104, 114 (1985)); *see also* *Gasperini v. Center for Humanities, Inc.*, 518 U.S. 415, 443 (1996) (Stevens, J., dissenting) (recognizing *Markman II* as involving a mixed question of law and fact).

⁷² 138 F.3d 1448 (Fed. Cir. 1998) (en banc).

⁷³ The court, once again sitting en banc, explained:

After the Supreme Court’s decision in *Markman II*, panels of this court have generally followed the review standard of *Markman I*. *See Serrano v. Telular Corp.*, 111 F.3d 1578, 42 U.S.P.Q.2d 1538 (Fed. Cir. 1997); *Alpex Computer Corp. v. Nintendo Co.*, 102 F.3d 1214, 40 U.S.P.Q.2d 1667 (Fed. Cir. 1996);

were “making factual evidentiary findings” during patent claim construction,⁷⁴ a majority of the court restated its earlier conclusion that claim construction is “a purely legal question.”⁷⁵

Only a handful of years later, the Federal Circuit decided to review this issue once again. In its July 21, 2004 Order in *Phillips v. AWH Corp.*, the Federal Circuit certified seven questions for appeal, including:

(7) Consistent with the Supreme Court’s decision in *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996), and our *en banc* decision in *Cybor Corp. v. FAS Technologies, Inc.*, 138 F.3d 1448 (Fed. Cir. 1998), is it appropriate for this court to accord any deference to any aspect of trial court claim construction rulings? If so, on what aspects, in what circumstances, and to what extent?⁷⁶

When the *Phillips* decision arrived, however, the Federal Circuit majority noted only that “[a]fter consideration of the matter, we have decided not to address that issue at this time.”⁷⁷ As a result, uncertainty as to the appropriateness of deferential review in the

Insituform Techs., Inc. v. Cat Contracting, Inc., 99 F.3d 1098, 40 U.S.P.Q.2d 1602 (Fed. Cir. 1996); *General Am. Transp. v. Cryo-Trans, Inc.*, 93 F.3d 766, 39 U.S.P.Q.2d 1801 (Fed. Cir. 1996). In some cases, however, a clearly erroneous standard has been applied to findings considered to be factual in nature that are incident to the judge’s construction of patent claims. See *Eastman Kodak Co. v. Goodyear Tire & Rubber Co.*, 114 F.3d 1547, 1555–56, 42 U.S.P.Q.2d 1737, 1742 (Fed. Cir. 1997); *Serrano*, 111 F.3d at 1586, 42 U.S.P.Q.2d at 1544, (Mayer, J., concurring); *Wiener v. NEC Elecs. Inc.*, 102 F.3d 534, 539, 41 U.S.P.Q.2d 1023, 1026 (Fed. Cir. 1996); *Metallics Sys. Co. v. Cooper*, 100 F.3d 938, 939, 40 U.S.P.Q.2d 1798, 1799 (Fed. Cir. 1996). We ordered that this case be decided *in banc* to resolve this conflict, and we conclude that the *de novo* standard of review as stated in *Markman I* remains good law.

Id. at 1454–55 (footnote omitted).

⁷⁴ *Id.* at 1454.

⁷⁵ *Id.* at 1456 (“[W]e therefore reaffirm that, as a purely legal question, we review claim construction *de novo* on appeal including any allegedly fact-based questions relating to claim construction. Accordingly, we today disavow any language in previous opinions of this court that holds, purports to hold, states, or suggests anything to the contrary.”). *Id.*

⁷⁶ *Phillips v. AWH Corp.*, 376 F.3d 1382, 1383 (Fed. Cir. 2004) (order for reh’g *en banc*).

⁷⁷ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1328 (Fed. Cir. 2005) (*en banc*).

law of patent claim construction persists.⁷⁸ But guidance can be sought from the law of real property claim construction for which the treatment of the law-fact distinction and the resultant issue of deferential review are well-settled.

2. The Role of Underlying Facts in Real Property Claim Construction

As in patent law, courts have held consistently that real property claim construction is ultimately a question of law.⁷⁹ But unlike the Federal Circuit majority's view of patent law, real property law recognizes the role of intent and other subsidiary factual inquiries in claim construction.⁸⁰ Specifically, a factual inquiry may be necessary to resolve an ambiguity,⁸¹ related either

⁷⁸ Recently, in *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 2006 WL 3378475 (Fed. Cir. Nov. 22, 2006) (denying petition for rehearing), seven Federal Circuit judges recommended reconsideration of the court's no-deference position. *Id.* at *2 (Michel, C.J., dissenting), *4 (Newman, J., dissenting), *6 (Rader, J., dissenting), *7 (Gajarsa, J., concurring) (joined by Judges Linn and Dyk), and *7 (Moore, J., dissenting).

⁷⁹ See, e.g., *McGeechan v. Sherwood*, 760 A.2d 1068 (Me. 2000); *Conner v. Hendrix*, 72 S.E.2d 259, 264 (Va. 1952) ("In the construction of deeds it is to be remembered that it is the duty of the court to give the proper meaning to every word used in the instrument, if possible." (internal quotations omitted)); *Baker v. Moorefield*, 571 S.E.2d 680, 682 (N.C. Ct. App. 2002) ("In a petition to establish boundaries, where the location of the boundary line is admitted, or evidence is not conflicting, the location of the line is a question of law for the court." (internal quotations and ellipses omitted)); *Currie v. Walkinshaw*, 746 P.2d 1045, 1048 (Idaho Ct. App. 1987) ("[W]here a written instrument is clear and unambiguous, its interpretation is a matter of law."). But see *Okemo Mtn., Inc. v. Lysobey*, 883 A.2d 757, 760 (Vt. 2005) ("The location of a boundary line is a question of fact, to be determined on the evidence.").

⁸⁰ See, e.g., *Arab Corp. v. Bruce*, 142 F.2d 604, 609 (5th Cir. 1944) ("[T]he main, the primary, purpose of construction [is] to arrive at the intent of the grantor as the deed expresses it"); *Chesapeake Corp. of Va. v. McCreery*, 216 S.E.2d 22, 25 (Va. 1975) ("The main task of a court in construing a deed is to ascertain the true intention of the grantor as drawn from the entire instrument." (citations omitted)); *Groeneveld v. Camano Blue Point Oyster Co.*, 81 P.2d 826, 829 (Wash. 1938). The interpretation of intent is a question of fact. See 23 AM. JUR. 2D *Deeds* § 193 (2006).

⁸¹ See, e.g., *Baker*, 571 S.E.2d at 682 ("[W]here the language is *ambiguous* so that the effect of the instrument must be determined by resort to extrinsic evidence . . . the question of the parties' intention becomes one of fact." (emphasis and ellipses in original) (citations omitted)); *Currie*, 746 P.2d 1045, 1048 ("But where an instrument is ambiguous, interpretation of that instrument is a matter of fact for the trier of fact. . . . If an instrument is reasonably subject to conflicting interpretations, it is ambiguous, and its construction is a question of fact." (citations omitted)).

directly to the intent of the parties to a deed or other land grant or to an historical or otherwise debatable fact.⁸²

Consider *Reed v. Proprietors of Locks and Canals on Merrimac River*.⁸³ In 1850 the Supreme Court was asked to settle a boundary dispute arising out of the division of a large tract of land by a mortgage some sixty-eight years earlier. This case required the trial court to construe, in particular, the northern boundary of the disputed land. The language of the conveyance, however, did not fully resolve this dispute, and the court accepted evidence to clarify the location of the boundary.⁸⁴ The court then instructed the jury:

That if the jury believed from the evidence, looking to the monuments, length of lines, and quantities, actual occupation, &c., that it was more probable that the parties to the mortgage of 1782 intended to include therein the demanded premises than otherwise, they should return their verdict for the tenants.⁸⁵

The instruction was objected to on the grounds “that it submits the construction of the deed to the jury.”⁸⁶

Writing for the Supreme Court, Justice Grier began: “It is true, that it was the duty of the court to give a construction to the deed

⁸² See 23 AM. JUR. 2D *Deeds* § 247 (2006) (“[In the construction of the language used in a deed for the purpose of ascertaining the land conveyed, the intention of the parties, especially that of the grantor, as deduced from the whole instrument and the surrounding circumstances and conditions is controlling, just as it is in determining any other question arising in the construction of the deed.”); 14 POWELL & ROHAN, *supra* note 54, § 81A.05[3][a] (“The intent of the parties is the polestar for interpreting a deed”); *Currie*, 746 P.2d at 1048 (“In construing a deed the court should seek and, if possible, give effect to the intention of the parties.”) (quoting *Gardner v. Fliegel*, 450 P.2d 990, 993 (Idaho 1969)). Intent is every bit as much a factual issue in the construction of government land grants as it is in the construction of private land grants. For example, the issue of intent was addressed by Justice White in *Texas v. Louisiana*, 410 U.S. 702, 707 (1973): “[O]ur task is to ascertain congressional will when it admitted Louisiana into the Union on April 8, 1812, and established her relevant western boundary as ‘beginning at the mouth of the river Sabine; thence, by a line to be drawn along the middle of said river, including all islands to the thirty-second degree of latitude’” (citations omitted).

⁸³ 49 U.S. (8 How.) 274 (1850).

⁸⁴ The evidence considered by the court is discussed in Part III.C.2., *infra*.

⁸⁵ *Reed*, 49 U.S. at 288.

⁸⁶ *Id.*

in question, so far as the intention of the parties could be elicited therefrom”⁸⁷ Claim construction is, after all, a matter of law. This, however, is not the end of the discussion.

Justice Grier continued:

But after all this is done, it is still a question of fact to be discovered from evidence dehors the deed, whether the lines, monuments, and boundaries called for include the premises in controversy or not. A deed may be vague, ambiguous, and uncertain in its description of boundary; and even when it carefully sets forth the lines and monuments, disputes often occur as to where those lines and monuments are situated on the ground; and it necessarily becomes a fact for the jury to decide, whether the land in controversy is included therein, or, in other words, was *intended* by the parties so to be.⁸⁸

Beyond explicit inquiries into intent, real property claim construction also involves inquiries into historic or otherwise debatable facts. For example, in *County of Chenango v. County of Broome*, the court was asked to locate the claimed boundary between two counties, and specifically the endpoint of that boundary at “the confluence of the Tioughnioga and Chenango rivers”⁸⁹ This exercise required a factual inquiry into “the location of the original confluence of the two rivers that form one of the endpoints of the boundary line in question[;]”⁹⁰ the case was remitted to a lower court for such a factual determination. As

⁸⁷ *Id.*

⁸⁸ *Id.* at 288–89 (emphasis in original). The role of intent as a factual inquiry in real property claim construction has also been recognized by the Federal Circuit. For example, in *Markman I* Judge Archer acknowledged that:

A question of fact may also arise in construing . . . deeds . . . when there is an ambiguous term. In this situation, the parol evidence rule does not apply and extrinsic evidence may be offered to demonstrate what the parties intended when they used the term. Thus the factual inquiry for the jury in these cases focuses on the subjective intent of the parties when they entered into the agreement.

Markman v. Westview Instruments, Inc. (Markman I), 52 F.3d 967, 985 (Fed. Cir. 1995) (en banc).

⁸⁹ *County of Chenango v. County of Broome*, 180 A.D.2d 319, 321–22 (N.Y. App. Div. 1992).

⁹⁰ *Id.* at 322.

another example, consider again *Reed v. Proprietors of Locks & Canals*, in which the Supreme Court accepted witness testimony to establish “the existence in former times of another ‘bridle road’”⁹¹ In each of these cases, as with the above inquiries into intent, the resolution of factual issues was crucial to the ultimate legal conclusion.

This leads us into a conflict. As a 1943 First Circuit decision stated: “It appears to be firmly established that . . . a patent is subject to the same general rules of construction as any other written instrument.”⁹² And as Judge Archer similarly stated on behalf of the Federal Circuit majority in *Markman I*: “[t]he patent is a fully integrated written instrument.”⁹³ But if patents are to be treated in a manner similar to real property, how is it that we account for underlying facts in real property claim construction but not in patent claim construction?

C. Rethinking the Current Approach to the Law-Fact Distinction

In his *Markman* concurrence, Judge Mayer explained:

The ultimate issue of patent scope, depending as it does on the legal effect of the words of the claims, is a question of law. But it does not necessarily follow that the judge is to decide every question that arises during the course of claim construction as a matter of law.⁹⁴

Judge Mayer then proceeded to offer a roadmap we can follow to reconsider the law-fact distinction in patent claim construction with the benefit of our experiences in real property. Specifically, we must consider: “[1] whether fact issues may arise subsidiary to the ultimate legal conclusion, [2] how such issues are to be decided, and [3] by whom.”⁹⁵

⁹¹ 49 U.S. at 289.

⁹² *Doble Eng'g Co. v. Leeds & Northrup Co.*, 134 F.2d 78, 83 (1st Cir. 1943).

⁹³ *Markman I*, 52 F.3d at 978. (“The reason that the courts construe patent claims as a matter of law and should not give such task to the jury as a factual matter is straightforward: It has long been and continues to be a fundamental principle of American law that ‘the construction of a written evidence is exclusively with the court.’”) (quoting *Levy v. Gadsby*, 7 U.S. (3 Cranch) 180, 186 (1805)).

⁹⁴ *Markman I*, 52 F.3d at 989 (Mayer, J., concurring).

⁹⁵ *Id.*

1. Whether Fact Issues May Arise Subsidiary to the Ultimate Legal Conclusion

The law-fact distinction in patent claim construction is generally approached as a matter of institutional competence,⁹⁶ with a majority sharing the view that judges are better suited than juries to resolve such issues.⁹⁷ As a result, the question addressed in patent law is typically not whether underlying fact issues *do* arise, but rather whether they *should*. This is the wrong question. Although the Federal Circuit majority may wish otherwise, underlying facts—and intent in particular—have been and regularly are considered in the process of construing patent claims.

As in real property law,⁹⁸ the interpretation of patent claim terms is ultimately a question of how those terms were intended to be used by the parties to the property grant—the patentee and the PTO.⁹⁹ The Federal Circuit has explicitly recognized this role of intent in, for example, *Renishaw PLC v. Marposs Società Per Azioni*¹⁰⁰: “Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim.”¹⁰¹

⁹⁶ See Signore, *supra* note 17, at 798 (“a question of fact is any question that can be answered by a jury, and a question of law is any question that can be answered by a judge”); Stephen A. Weiner, *The Civil Jury Trial and the Law-Fact Distinction*, 54 CAL. L. REV. 1867, 1867–68 (1966) (“The categories of “questions of law” and “questions of fact” have been the traditional touchstones by which courts have purported to allocate decision-making between judge and jury. . . . [I]n many cases, Coke’s maxim has become a tautology: A question of law or a question of fact is a mere synonym for a judge question or a jury question.”).

⁹⁷ See *Markman v. Westview Instruments, Inc. (Markman II)*, 517 U.S. 370, 388 (1995) (“judges, not juries, are the better suited to find the acquired meaning of patent terms”). The question “who should decide?” is reserved for Part III.C.3, *infra*.

⁹⁸ See *supra* notes 80–82 and accompanying text.

⁹⁹ See, e.g., *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (en banc). (“Like the specification, the prosecution history [of a patent] provides evidence of how the PTO and the inventor understood the patent. . . . [T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention”) (citations omitted).

¹⁰⁰ 158 F.3d 1243 (Fed. Cir. 1998).

¹⁰¹ *Renishaw PLC v. Marposs Società Per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) (citations omitted).

Additionally, like the construction of a deed or other land grant, “[patent] claim interpretation may require the factfinder to resolve certain factual issues such as what occurred during the prosecution history.”¹⁰² For example, in *Silsby v. Foote*,¹⁰³ the Supreme Court, *inter alia*, approved of a lower court’s decision to treat the identification of components of a claimed combination for “a new and useful improvement in regulating the draft of stoves”¹⁰⁴ as an underlying fact issue. The trial judge instructed the jury “that the third claim in the specification was for a combination of such parts of the described mechanism as were necessary to regulate the heat of the stove; . . . and he left it to the jury to find what those parts were”¹⁰⁵

Writing for the Court, Justice Curtis explained that “[t]he construction of the claim was undoubtedly for the court.”¹⁰⁶ The Court proceeded to acknowledge:

The writing which the Judge was to construe, calls for all such elements of the combination as are actually employed to effect the regulation of the heat, according to the plan of the patentee, described in the specification, and it therefore became a question for the jury, upon the evidence of experts, or an inspection by them of the machines, or upon both, what parts described did in point of fact enter into, and constitute an essential part of this combination.¹⁰⁷

The trial judge’s decision to treat the identification of the elements of the claimed combination as an inquiry into underlying fact seemed perfectly natural to the Court. After all, “[h]ow could the

¹⁰² *Arachnid, Inc. v. Medalist Mktg. Corp.*, 972 F.2d 1300, 1302 (Fed. Cir. 1992) (“In this case, there is substantial evidence from which a jury could find that the examiner rejected the claim as Arachnid construes it.”) (citing *SmithKline Diagnostics, Inc. v. Helena Labs. Corp.*, 859 F.2d 878, 882 (Fed. Cir. 1988)). Note that the *Arachnid* opinion, which acknowledges the existence of underlying facts in claim construction, was penned by Judge Archer (the author of the Federal Circuit’s majority opinion in *Markman I*).

¹⁰³ 55 U.S. (14 How.) 218 (1852).

¹⁰⁴ *Silsby v. Foote*, 55 U.S. 218, 219 (1852) (quoting the language of the patent).

¹⁰⁵ *Id.* at 225.

¹⁰⁶ *Id.*

¹⁰⁷ *Id.* at 226.

Judge know this as a matter of law?”¹⁰⁸ But this is precisely the point. In certain circumstances there are issues of fact underlying patent claim construction that simply are not within the ambit of the court as a matter of law.¹⁰⁹

Silsby is not an anomaly. Patent claim construction has been categorized as “a mixed question of law and fact” by numerous Federal Circuit panels¹¹⁰ and, at the Supreme Court, by at least Justice Stevens.¹¹¹ This position was explained by Judge Newman, writing in dissent in *Markman I*:

The legal construction of documents—patent documents and other documents—is indeed a matter of law. The legal effect of the patent claim is to establish the metes and bounds of the patent right to exclude; this is a matter of law. But this does not deprive the underlying facts of their nature as fact. . . . In patent infringement litigation there is often a factual dispute as to the meaning and scope of the technical terms or words of art as they are used in the particular patented invention. When such dispute arises its resolution is not a ruling of law, but a finding of fact.¹¹²

Nonetheless, the Federal Circuit majority is reluctant to admit explicitly that factual issues arise during claim construction. In the Federal Circuit majority’s view, underlying fact issues *should* not arise during patent claim construction, lest the public notice

¹⁰⁸ *Id.*

¹⁰⁹ Nonetheless, the Supreme Court refused to admit that a portion of claim construction was properly a jury issue: “not the construction of the claim, strictly speaking, but the application of the claim should be left to the jury.” *Id.* at 226. But certainly a decision regarding the elements that constitute a claimed combination is a determination of that claim’s scope—*claim construction*.

¹¹⁰ See *Cybor Corp. v. FAS Technologies, Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc) (identifying numerous Federal Circuit panel decisions that explicitly considered underlying questions of fact during claim construction). See, e.g., *Metallics Sys. Co. v. Cooper*, 100 F.3d 938, 939 (Fed. Cir. 1996) (overruled in relevant part by *Cybor*, 138 F.3d at 1456); *Tol-O-Matic, Inc. v. Proma Produkt-Und Mktg. Gesellschaft m.b.H.*, 945 F.2d 1546, 1550–52 (Fed. Cir. 1991); *Palumbo v. Don-Joy Co.*, 762 F.2d 969, 974 (Fed. Cir. 1985).

¹¹¹ *Gasperini v. Ctr. for Humanities, Inc.*, 518 U.S. 415, 443 (1996) (Stevens, J., dissenting) (referring to the Supreme Court’s decision in *Markman II*).

¹¹² *Markman v. Westview Instruments, Inc. (Markman I)*, 52 F.3d 967, 1000 (Fed. Cir. 1995) (Newman, J., dissenting).

function of the patent's claims be ill-served.¹¹³ In theory, because factual inquiries require the weighing of evidence, such inquiries during the claim construction process may result in uncertainty.

But simply denying the existence of underlying facts does not strip them of their factual nature. Arguments founded solely on concerns over the public notice function of claims overemphasize the value of the public notice function.¹¹⁴ Moreover, explicit

¹¹³ The Federal Circuit has also cited the need for uniformity in claim construction as a concern related to the recognition of underlying factual issues. *Cybor*, 138 F.3d at 1455 (“uniformity to the construction of a patent claim . . . would be impeded if [the court] were bound to give deference to a trial judge’s asserted factual determinations incident to claim construction.”). But this concern is ill-founded. As the ABA explained in its amicus brief in *Phillips v. AWH Corp.*, “affording deference to underlying [factual] findings by a trial court would not impede uniformity. Ultimately, the issue is one of law. Thus, there is little risk of inconsistent claim construction rulings on the same term in the same patent, as an earlier claim construction determination by [the Federal Circuit] will be binding in future litigation under principles of *stare decisis*, and in some instances, issue preclusion.” *Brief of the American Bar Association as Amicus Curiae Supporting Neither Party* at 20–21, *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

¹¹⁴ The public notice function of property claims is seldom fully realized. For example, both patent and real property claims may be construed so as to preserve their validity. *See, e.g.*, *Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999) (“claims should be so construed, if possible, as to sustain their validity.”) (quoting *Carman Indus., Inc. v. Wahl*, 724 F.2d 932, 937 n.5 (Fed. Cir. 1983)); *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577 (Fed. Cir. 1984) (patent claims should be construed where possible to preserve their validity); *Turrill v. Mich. So. R.R. Co.*, 68 U.S. 491, 510 (1864) (“[Patent claims] are to receive a liberal construction, and under the fair application of the rule, *ut res magis valeat quam pereat*, are, if practicable, to be so interpreted as to uphold and not to destroy the right of the inventor.”); 23 AM. JUR. 2D *Deeds* § 199 at p. 207 (2005) (“Practically all courts agree that a deed will be given an interpretation which will cause it to be effective in preference to one which would render it inoperative, if not unreasonable or legally impossible.”). Construction so as to preserve validity may require reference to non-public documents, such as unrecorded deeds in the real property context and “secret prior art,” such as prior art under 35 U.S.C. §§ 102(e) and (g), in the patent context. As a result, the preservation of validity during claim construction may be violative of the claims’ public notice function. Similarly, the expansion of patent claim scope under the doctrine of equivalents runs contrary to the public notice function of patent claims. *See Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29 (1997) (“There can be no denying that the doctrine of equivalents, when applied broadly, conflicts with the definitional and public notice functions of the statutory claiming requirement.”). Although there is no perfect analog for the doctrine of equivalents in real property law, the effects of accretion and reliction on the water boundaries of real property are similar to the expansion of patent claim scope by equivalence to account for after-developed technologies. *See, e.g.*, 14 POWELL & ROHAN, *supra* note 54, § 81A.05[3][i][iii] (2006) (“A boundary which is marked by a stream or river will move

recognition of underlying facts in claim construction coupled with a principled approach to factual inquiries adequately protects the public notice function of claims.

2. How Such Issues Are to Be Decided¹¹⁵

Over centuries of real property law practice, safeguards have been developed so that factual inquiries may be made during the claim construction process without running afoul of the public notice function of claims. Although the existence of underlying facts has not been recognized explicitly in patent claim construction, analogous rules have been developed in patent law practice. It follows then that factual inquiries may be made during patent claim construction, if these rules are adhered to.

With respect to intent, the public notice function of claims is best served by limiting the factual inquiry to the intent of the parties as expressed in the property grant itself. In real property law, this rule has been stated: “It is not the intention that the parties may have had but failed to express in the instrument, but it is the intention that is expressed by the instrument.”¹¹⁶ Similarly, in

with the thread of the stream or river if the change in location is due to gradual accretion.”); *Monument Farms, Inc. v. Daggett*, 520 N.W.2d 556, 562 (Neb. 1994) (“Accretion is the process of gradual and imperceptible addition of solid material, called alluvion, thus extending the shoreline out by deposits made by contiguous water; reliction is the gradual withdrawal of the water from the land by the lowering of its surface level from any cause. Where the thread of the main channel of a river is the boundary line between two estates and it changes by the slow and natural processes of accretion and reliction, the boundary follows the channel.”) (citations omitted). Furthermore, to consider a more anomalous situation, public notice of some patent rights was rendered nearly impossible for a period of time following a fire at the Patent Office in 1836. *See generally* Bianca M. Federico, *The Patent Office Fire of 1836*, 19 J. PAT. OFF. SOC’Y 804 (1937). The public notice implication of the Patent Office fire was addressed briefly by the Supreme Court in *Hogg v. Emerson*, 47 U.S. (6 How.) 437, 485 (1848) (“The destruction by fire was no fault of the inventor; and his rights had all become previously perfected.”).

¹¹⁵ The Author here only addresses the primary safeguards to the public notice function of claims in the context of factual inquiries. More detailed evidentiary issues, such as the appropriate uses of expert testimony during claim construction, while relevant, are beyond the scope of this Article.

¹¹⁶ *Harlan v. Vetter*, 732 S.W.2d 390, 392 (Tex. App. 1987). *See also* Lemley, *supra* note 62, at 343 (“Identity of land is the sole purpose of the description, and the authorities are endless that nothing will pass by a deed except what is described in it, whatever the

patent law, “the inventor’s intention, *as expressed* in the specification, is regarded as dispositive.”¹¹⁷

To ensure that inquiries into intent are limited in this manner during real property claim construction, “[s]elf-serving testimony regarding unexpressed subjective intentions of the grantor cannot be considered, but other evidence bearing on the intent of the parties may be received.”¹¹⁸ To do otherwise would violate the public notice function of the property claim and create an opportunity for the parties to engage in revisionist history.¹¹⁹ Again, similar statements may be found in patent law— “[inventor’s] after-the-fact testimony is of little weight compared to the clear import of the patent disclosure itself.”¹²⁰

Absent self-serving party testimony, courts may only look to the document itself and surrounding circumstances to determine the parties’ intent as a matter of fact. To do this during both real property and patent claim construction, courts attempt to step into the parties’ shoes by developing fictional actors—in patent law, the person of ordinary skill in the art.¹²¹ Courts in both areas of law

intentions of the parties may have been.” (citing *inter alia* *Thayer v. Finton*, 15 N.E. 615 (N.Y. 1888)).

¹¹⁷ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc) (emphasis added). See also *Intellical, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387 (Fed. Cir. 1992) (“where a disputed term would be understood to have its ordinary meaning by one of skill in the art from the patent and its history, extrinsic evidence that the inventor may have subjectively intended a different meaning does not preclude summary judgment.”).

¹¹⁸ *W.S. Newell, Inc. v. Randall*, 373 So. 2d 1068, 1070 (Ala. 1979). See also *Joseph v. Duran*, 436 So. 2d 316, 317 (Fla. Dist. Ct. App. 1983) (“the trial court correctly ruled that the parole evidence rule precluded appellants from introducing evidence concerning [the grantor’s] intentions when he conveyed lots 19 through 23 to [the grantees].”).

¹¹⁹ See, e.g., 14 POWELL & ROHAN, *supra* note 54, § 81A.05[3][e] (2006) (“If subsequent, self-serving statements were permissible, then the grantor might be able to negate a previously effective conveyance by such tactics.”).

¹²⁰ *N. Am. Vaccine v. Am. Cyanamid Co.*, 7 F.3d 1571, 1577 (Fed. Cir. 1993). See also *Markman v. Westview Instruments, Inc. (Markman I)*, 52 F.3d 967, 991 n.3 (Mayer, J., concurring) (“Of course, the inventor’s testimony as to what he intended or how he understands the patent, as opposed to his testimony as an expert, may be relevant, but is entitled to little weight in the face of evidence to the contrary.”).

¹²¹ See, e.g., *Markman I*, 52 F.3d at 986 (“Thus the focus in construing disputed terms in claim language is not the subjective intent of the parties to the patent contract when they used a particular term. Rather the focus is on the objective test of what one of ordinary skill in the art at the time of the invention would have understood the term to mean.”); *Key Pharm. v. Hercon Lab. Corp.*, 161 F.3d 709, 713 (Fed. Cir. 1998) (“Dr. Guy testified

then consider how the terms used in the document would be understood by this fictional actor, either according to the terms' customary meaning or by a special meaning known to experts in the area.¹²²

For example, in 1881 the Supreme Court of Iowa issued its opinion in *Dunlieth & Dubuque Bridge Co. v. County of Dubuque*,¹²³ clarifying the Eastern boundary of the State of Iowa for taxation purposes. In that case, the court construed the language "middle of the main channel," as used in "[t]he act of congress of March 3, 1845, admitting Iowa into the Union, and the constitution of the state in its preamble, [which] declare that the eastern boundary of the state shall be 'the middle of the main channel of the Mississippi river.'"¹²⁴

The court explicitly considered both the "primary meaning" and the "familiar meaning" of the term. Specifically, the court found that, according to their primary meaning, the words in question "describe the bed in which the stream of the river flows."¹²⁵

But, like many other words of our language which are controlled in their signification by the subjects under discussion when they are used, the word "channel," when employed in treating of subjects connected with the

that the patent provides no numerical values for the term, that one of ordinary skill in the art would therefore look to the FDA for numerical ranges, and that there one would find the range 2.5 to 15 mg of nitroglycerin per day").

¹²² For real property law, see 23 AM. JUR. 2D *Deeds* § 254 (2005) ("Generally, in the absence of anything to the contrary indicated by the deed itself, words descriptive of the land conveyed are construed according to their proper and most generally known signification, rather than according to their technical sense, with the view of giving effect to the probable intention of the parties."). See also *id.* § 242 ("But according to the basic rule applied in construing deeds, that the dominant purpose is to ascertain and effectuate the intention of the parties, primarily that of the grantor, it follows that technical terms must be given their popular sense where the manifest intention of the grantor so requires."); *Lambert v. Pritchett*, 284 S.W.2d 90, 90–91 (Ky. 1955) ("Terms are to be construed and understood according to their plain, ordinary, and popular sense, unless they have acquired a particular technical sense by the common usage of the trade. They are to be construed with reference to their commercial and their scientific import.").

For patent law, see, for example, *Johnson Worldwide Assoc., Inc. v. Zebco Corp.*, 175 F.3d 985, 989–90 (Fed. Cir. 1999).

¹²³ See 8 N.W. 443 (Iowa 1881).

¹²⁴ *Id.* at 446.

¹²⁵ *Id.*

navigation of rivers, indicates the line of the deep water which vessels follow. In this sense it is familiarly used by the boatmen of the Mississippi river.¹²⁶

Distinguishing between those conflicting definitions, the court reasoned:

The course of navigation, which follows what boatmen call the channel, is extremely sinuous, and often changing, and is unknown except to experienced navigators. On the other hand, the bed of the main river, designated by the word "channel," used in its primary sense, is the great body of water flowing down the stream. It is broad, and well defined by islands or the main shore. It cannot be possible that congress and the people of the state, in describing its boundary, used the word "channel" to describe the sinuous, obscure, and changing line of navigation, rather than the broad and distinctly-defined bed of the main river. The center of this river-bed channel may be readily determined, while the center of the navigable channel often could not be known with certainty. The first is a fit boundary line of a state; the second cannot be.¹²⁷

Wrapped within this reasoning, a number of considerations come into play. Specifically, the court considered both the intent of the drafters of the document, as manifested in the language they selected, and the public notice function served by that language.¹²⁸

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ *Id.* Once it settled on the primary meaning for the boundary of the State, the court turned to other reasons to support its conclusion. These included the need to have non-overlapping boundaries of Iowa and Illinois, whose boundary description did not use the word "channel;" and the language of the act of congress enabling the building of bridges, which "provides that the draw shall be constructed 'over the main channel of the river, at an accessible navigable point.'" *Id.* at 447. Similarly, in *Buttenuth v. St. Louis Bridge Co.*, 17 N.E. 439 (Ill. 1888), the Supreme Court of Illinois preferred a similar construction for the Missouri-Illinois border and commented that "it would be a well-known and easily-ascertainable boundary line." *Id.* at 442.

Justice White's dissent in *New Hampshire v. Maine*, 426 U.S. 363 (1976), may also be instructive. He wrote:

No inquiry is made, however, by either the Court or the parties as to whether the 'middle of the river' has, or had, any commonly understood meaning in the

During these factual inquiries in both real property and patent claim construction, courts protect the public notice function of claims by limiting the use of extrinsic evidence.¹²⁹ For example, as explained above, intent cannot be proven by self-serving party testimony. Instead, as the Supreme Court of Virginia explained in *Chesapeake Corp. of Virginia v. F.D. McCreery*: “When the description in a deed is ambiguous and uncertain, extrinsic evidence of the surrounding circumstances and probable motives of the contracting parties at the time of the conveyance is admissible to show intent.”¹³⁰ Or, as stated in patent law: “Only when the claim language is ambiguous may the court resort to extrinsic aids, such as testimony from experts in the field, to assist in the construction of claim language.”¹³¹

law. The Special Master concluded that these words, when used in 1740, intended to describe the geographic middle of the river—a line all points of which were equidistant from the nearest points on the shores.

Id. at 371 (White, J., dissenting). In this compact statement, Justice White addresses a number of issues. First, Justice White implies that the term in question should be construed according to a “commonly understood meaning in the law.” Second, such a meaning should be selected as would have been understood at the time the boundary was established. And third, the purpose of the intellectual exercise is to establish the intended boundary at the time of the grant.

¹²⁹ Over centuries of real property law practice, “courts ‘have laid down rules . . . founded on reason, experience and observation, which are rules pertaining, not to the admissibility. But to the weight of evidence.’” 1 JOYCE PALOMAR, PATTON AND PALOMAR ON LAND TITLES § 151 (3d ed. 2003). Similarly, in patent law, “[the Federal Circuit] has made strong cautionary statements on the proper *use* of extrinsic evidence, . . . which might be misread by some members of the bar as restricting a trial court’s ability to *hear* such evidence. We intend no such thing.” *Key Pharms. v. Hercon Labs. Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998) (emphasis in original) (internal citation omitted).

¹³⁰ 216 S.E.2d 22, 25 (Va. 1975) (citations omitted). *See also* *Westmoreland v. Beutell*, 266 S.E.2d 260, 261 (Ga. Ct. App. 1980) (“Since the language in the deed is ambiguous, the trial court committed no error in admitting parol evidence to determine the intention of the grantor, as well as to determine the line by traditionary reputation. This evidence did not contradict or vary the terms of the deed but was admissible to locate natural landmarks and to explain the ambiguity.”) (citations omitted); 14 POWELL & ROHAN, *supra* note 54, § 81A.05[3][e] (2006) (“If there is an ambiguity, then any extrinsic evidence which is introduced to clarify it must comply with the parol evidence rule. This rule states that the extrinsic evidence may not contradict the written description, but rather may only explain or clarify it.”); 63C AM. JUR. 2D *Public Lands* § 124 (2005) (“in the construction of a grant, parol evidence may be introduced as to the circumstances at the time the grant was made”).

¹³¹ *Arlington Indus., Inc. v. Bridgeport Fittings, Inc.*, 290 F. Supp. 2d 508, 520 (M.D. Pa. 2003). *See also* *Winans v. N.Y. & Erie R.R. Co.*, 62 U.S. 88, 101 (1859) (holding

As a general matter, to perfect the public notice function of a property claim, the parties should “draft such a description as will preclude any confusion or misconception as to the identity of the real estate, *from the public records alone*[,]”¹³² and the admissible evidence should be so limited. Similarly stated in the context of patent law, a trial court may resort to “those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean.”¹³³

But, when necessary, such extrinsic evidence may take the form of witness testimony,¹³⁴ especially as to historic facts. For example, considering again *Reed v. Proprietors of Locks & Canals on Merrimac River*,¹³⁵ “the demandant, in order to show what land was intended by the parties to be included, produced witnesses to prove the existence in former times of another ‘bridle road,’ which he contended was the southern boundary of the mortgaged land, because a hundred acres lay north of this road, and the land was described as intersected by ‘one county bridle-road,’ which ran through the northerly part of the farm.”¹³⁶

that, where the construction of a claim term is clear from the patent’s specification, “it would be wholly superfluous to examine experts to teach the court, what they could clearly perceive without such information, . . .”).

¹³² Lemley, *supra* note 62, at 325 (emphasis added).

¹³³ *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004). Such sources include dictionaries. *See, e.g.*, *Mars, Inc. v. H.J. Heinz Co.*, 377 F.3d 1369, 1374 (Fed. Cir. 2004) (“The parties direct us to *Webster’s Third New International Dictionary* . . .”); *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1202 (Fed. Cir. 2002). *See also* Ehab M. Samuel, *Phillips v. AWH Corp., Inc.: A Baffling Claim Construction Methodology*, 16 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 519, 549–52 (2006) (arguing that in certain instances it is preferable to consult extrinsic evidence).

¹³⁴ *See, e.g.*, *Neomagic Corp. v. Trident Microsystems, Inc.*, 287 F.3d 1062, 1074 (Fed. Cir. 2002) (“Unfortunately, on the record before us, we are unable to say with certainty whether or not one of skill in the art would understand that a power supply is designed to provide a constant voltage to a circuit. Given the complex technology involved in this case, we think that this matter can only be resolved by further evidentiary hearings, including expert testimony, before the district court.”); *Key Pharms. v. Hercon Labs. Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998) (“[A] trial court is quite correct in hearing and relying on expert testimony on an ultimate claim construction question in cases in which the intrinsic evidence . . . does not answer the question.”).

¹³⁵ *See supra* notes 83–88 and accompanying text.

¹³⁶ 49 U.S. (8 How.) 274, 289 (1850).

This process, as it is implemented in patent law, has been described by Judge Newman as follows:

[F]acts are found on evidence that includes the patent specification, relevant prior art, the prosecution history, the testimony of experts in the field, and other relevant evidence such as tests and demonstrations These findings do not become rules of law because they relate to a document whose legal effect follows from the found facts.”¹³⁷

But the Federal Circuit has cautioned that “undue reliance on extrinsic evidence poses the risk that it will be used to change the meaning of claims in derogation of the ‘indisputable public records consisting of the claims, the specification and the prosecution history,’ thereby undermining the public notice function of patents.”¹³⁸ This note of caution, however, suggests only the need for judges to mind their roles as evidentiary gatekeepers during the process of making factual inquiries, so as to protect the public notice function of claims.

3. By Whom

The only question that remains is: by whom should issues of underlying fact be decided? At first blush this appears to be an easy question to answer. Underlying questions of fact in real property claim construction are left to the fact-finder—typically a jury. Similarly in patent law, the Federal Circuit has stated: “Litigants have the right to have a case tried in a manner which ensures that factual questions are determined by a jury and the decisions on legal issues are made by the court”¹³⁹ But even this rule has its exceptions. For example, the enablement requirement “is deemed to be a question of law, [but] it is

¹³⁷ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 1000 (Fed. Cir. 1995) (Newman, J., dissenting).

¹³⁸ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1319 (Fed. Cir. 2005) (en banc) (quoting *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1578 (Fed. Cir. 1995)).

¹³⁹ *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 713 (Fed. Cir. 1984). *See also* *Signore*, *supra* note 17, at 797 (“The general rule that defines the jury’s role in patent cases and other civil cases in general is that the jury resolves questions of fact, while the judge resolves the questions of law.”).

amenable to resolution by the jury.”¹⁴⁰ Additionally, equitable issues, even when they involve underlying facts (such as materiality for inequitable conduct purposes), need not be submitted to a jury.¹⁴¹ And, addressing the existence of factual issues in prosecution history estoppel, the Federal Circuit has acknowledged that “the resolution of factual issues underlying a legal question may properly be decided by the court.”¹⁴²

Historically, there have been numerous cases in which questions of patent claim interpretation were submitted to juries for factual findings. For example, in *Silsby v. Foote*,¹⁴³ the Supreme Court, *inter alia*, approved of a lower court’s decision to leave underlying questions of fact relevant to the construction of a claim to a patented combination to the jury.¹⁴⁴

The shift from jury to judge in patent claim construction was described in a 1938 article as follows: “As time went on complete control of the interpretation of patent documents was gradually transferred to the judge. When it became apparent that the jury was not equal to the task, the custom developed of having the judge include in his charge to the jury a detailed interpretation of the patent coupled with instructions that his interpretation was binding on the jury.”¹⁴⁵ This development is consistent with what has been dubbed a “complexity exception” to the Seventh Amendment right to trial by jury: “If a particular lawsuit is so complex that a jury cannot satisfy this requirement of due process but is nonetheless an action at law, we face a conflict between the

¹⁴⁰ *Allen Organ Co. v. Kimball Int’l, Inc.*, 839 F.2d 1556, 1566 (Fed. Cir. 1988). *See also* *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1533 (Fed. Cir. 1987) (“Although enablement is ultimately a question of law, this court has recognized that there may be underlying factual issues involved.”) (citation omitted), *cert. denied*, 484 U.S. 954 (1987).

¹⁴¹ *See, e.g.*, *Kingsdown Med. Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867 (Fed. Cir. 1988) (*en banc*); *Gen. Electro Music Corp. v. Samik Music Corp.*, 19 F.3d 1405, 1408 (Fed. Cir. 1994) (“[I]ssues of fact underlying the issue of inequitable conduct are not jury questions, the issue being entirely equitable in nature.”).

¹⁴² *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 344 F.3d 1359, 1368 n.3 (Fed. Cir. 2003).

¹⁴³ 55 U.S. 218 (1852).

¹⁴⁴ *See supra* notes 104–109 and accompanying text.

¹⁴⁵ Lutz, *supra* note 30, at 143.

requirements of the fifth and seventh amendments.”¹⁴⁶ “[W]e find the most reasonable accommodation between the requirements of the fifth and seventh amendments to be a denial of jury trial when a jury will not be able to perform its task of rational decision-making with a reasonable understanding of the evidence and the relevant legal standards.”¹⁴⁷

This “complexity exception” has been condemned by the Federal Circuit. For example, offering additional views in *SRI v. Matsushita Electronic Corp.*, Judge Markey wrote:

We discern no authority and no compelling need to apply in patent infringement suits for damages a “complexity” exception denying litigants their constitutional right under the Seventh Amendment. (citation omitted) There is no peculiar cachet which removes ‘technical’ subject matter from the competency of a jury when competent counsel have carefully marshalled and presented the evidence of that subject matter and a competent judge has supplied carefully prepared instructions.¹⁴⁸

Unfortunately, the Supreme Court has not weighed in on this issue, stating simply that: “Because we conclude that our precedent supports classifying the question [of patent claim construction] as one for the court, we need not decide . . . the extent to which the Seventh Amendment can be said to have crystallized a law/fact distinction.”¹⁴⁹ But the ultimate decision of judge or jury will, for

¹⁴⁶ *In re Japanese Elec. Prods. Antitrust Litig.*, 631 F.2d 1069, 1084 (3d Cir. 1980), *subsequent judgment aff’d in part & rev’d in part*, 723 F.2d 238 (3d Cir. 1983), *rev’d on other grounds sub nom. Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574 (1986).

¹⁴⁷ *Japanese Elec. Prods.*, 631 F.2d at 1086. *But see* *In re U.S. Financial Sec. Litig.*, 609 F.2d 411, 431 (9th Cir. 1979), *cert. denied*, 446 U.S. 929 (1980) (“Not only do we refuse to read a complexity exception into the Seventh Amendment, but we also express grave reservations about whether a meaningful test could be developed were we to find such an exception.”).

¹⁴⁸ *SRI v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1130 (Fed. Cir. 1985) (Markey, J., additional views) (citations omitted). *See also Markman I*, 52 F.3d at 1000, 1010–17 (Newman, J., dissenting) (arguing that the constitutional right to a jury trial, as secured by the Seventh Amendment, may be violated when underlying facts are not submitted to a jury).

¹⁴⁹ *Markman II*, 517 U.S. at 384 n.10. *See also* Signore, *supra* note 17, at 800 (“In effect, the *Markman* Court undermined the role of juries in patent cases by taking away one of the key elements of a patent case away from juries based on a complexity argument.”).

purposes of this inquiry, have little impact on the reversal rate of claim construction decisions, so long as underlying factual determinations made by a judge as factfinder are properly recognized as factual.¹⁵⁰

III. DEFERENTIAL REVIEW AND A LOWER REVERSAL RATE

Patent claim construction, like real property claim construction, involves questions of underlying facts, including intent. Indeed, in both areas of property law, factual inquiries have been made during the claim construction process. Even though explicit consideration of fact issues in the context of patent law has been denied, similar analytical processes have been developed in both areas of property law (independently, in many cases) to resolve these factual issues. But these findings should be recognized for what they are—findings of fact. Public notice concerns are unavailing, as the safeguards in place in both areas of law allow for principled factual inquiry, with the court acting in its role as evidentiary gatekeeper.

As a result, although claim construction is ultimately a matter of law, reviewable *de novo*, conclusions with respect to these underlying facts would be appropriately reviewed by a deferential standard.¹⁵¹ Factual determinations made by a judge under the complexity theory will be reviewed for clear error,¹⁵² and those

¹⁵⁰ See *infra* notes 153–154 and accompanying text. *But see* *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 719 (Fed. Cir. 1984) (“Findings of fact by the jury are more difficult to set aside (being reviewed only for reasonableness under the substantial evidence test) than those of a trial judge (to which the clearly erroneous rule applies).”).

¹⁵¹ *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 2006 WL 3378475, at *2, *5 (Fed. Cir. Nov. 22, 2006) (denying petition for rehearing) (“[P]erhaps we should routinely give at least some deference to the trial court, given its greater knowledge of the facts.” (Michel, C.J., dissenting)) (“I urge this court to accord deference to the factual components of the lower court’s claim construction.” (Rader, J., dissenting)). In other contexts it is well established that mixed questions of law and fact should be broken into their component parts, with each part reviewed under an appropriate standard. See, e.g., *Richardson-Vicks Inc. v. Upjohn Co.*, 122 F.3d 1476, 1479 (Fed. Cir. 1997) (holding that the ultimate question of obviousness is a question of law, to be reviewed *de novo*, while the underlying factual determinations made by a jury are reviewed for substantial evidence).

¹⁵² Fed. R. Civ. P. 52(a) (2005) (“Findings of fact, whether based on oral or documentary evidence, shall not be set aside unless clearly erroneous, and due regard

determinations made by a jury will be reviewed for substantial evidence.¹⁵³

The inevitable result of recognizing the existence of factual inquiries during claim construction and imposing an appropriate deferential standard on the reviewing court (here, the Federal

shall be given to the opportunity of the trial court to judge of the credibility of the witnesses.”); *see* *Dennison Mfg. Co. v. Panduit Corp.*, 475 U.S. 809 (1986) (per curiam). Some states have adopted rules similar to Rule 52. *See, e.g., Okemo Mtn., Inc. v. Lysobey*, 883 A.2d 757, 760 (Vt. 2005) (“We review findings of fact only for clear error. V.R.C.P. 52(a)(2). Findings will be sustained on appeal unless, viewing the evidence in the light most favorable to the prevailing party, there is no credible evidence to support the findings.”). Other state appeals courts in real property boundary disputes simply apply the common law *ore tenus* rule, whereby the trial judge’s findings are not disturbed unless they are clearly wrong or unjust. *See* BLACK’S LAW DICTIONARY 1133 (8th ed. 2004).

¹⁵³ *Markman I*, 52 F.3d at 991 (Mayer, J., concurring). Judge Mayer described the appropriate standard of review:

When a question of claim construction arrives [at the Federal Circuit] on appeal, [that] court reviews the ultimate construction given the claims under the *de novo* standard applicable to all legal conclusions. But any facts found in the course of interpreting the claims must be subject to the same standard by which [the Federal Circuit reviews] any other factual determinations: for clear error in facts found by a court; for substantial evidence to support a jury’s verdict.

Id. Not everyone agrees that technical issues of fact should be granted deference by the Federal Circuit. Considering the appeal of bench-trying facts, Professor Dreyfuss argues:

Despite the important interests served by Rule 52(a), it is clear that it operates perversely as regards the CAFC. The Rule rests on the assumption that the trial court is in at least as good a position as, and often a better position than, the court of appeals for deciding factual issues. When both appellate court and trial court are composed of generalists, this assumption is true. There is no reason to think that a judge appointed to a trial court is less capable than an appellate judge to review documentary evidence, and the district court has an immediate sense of testimonial evidence and is better situated to evaluate the credibility of the witnesses. Where, however, the trial court is composed of generalists and the appellate court is staffed to deal with the complex factual issues being tried, the assumption breaks down, for the appellate court is at least as well situated to find the facts as the trial court. A trial judge who has never read a technical document before is less likely to interpret it correctly, no matter how many expert witnesses are called to testify, than an appellate judge who has extensive experience in dealing with such matters. Thus, it seems somewhat peculiar to allow a layman’s decision to stand on a technical issue such as the content of prior art, when the experienced judges of the CAFC, and the experts they employ, think that the finding is wrong, but not “clearly erroneous.”

Rochelle Cooper Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U. L. REV. 1, 47–48 (1989).

Circuit) is the desired outcome—a lowered reversal rate for patent claim construction decisions.¹⁵⁴ Moreover, such deference:

[P]rotects the judgment winner from relitigation at the appellate level and promotes the efficient use of judicial resources by insuring that the court most qualified to find the facts has the final say. In addition, [a deferential standard] prevents the appellate court from substituting its own judgment for that of the trial court, thereby safeguarding the integrity of the district court and promoting public respect for its decisions.¹⁵⁵

In the end, disregarding the role of underlying questions of fact in patent claim construction is farcical.¹⁵⁶ As confirmed by the law of real property claim construction, patent claim construction involves inquiries into underlying facts and provides safeguards to protect the public notice function of claims during such inquiries. Deference to underlying findings of fact in patent claim construction is the appropriate answer. And a more comfortable reversal rate will be the result.

¹⁵⁴ See, e.g., Moore, *District Court Judges*, *supra* note 14, at 28 (“Greater deference to the meaning assigned to claim terms by the district court would increase the affirmance rate at the Federal Circuit.”); *Anderson v. City of Bessemer City*, 470 U.S. 564, 573–74 (1985) (“[The clearly erroneous] standard plainly does not entitle a reviewing court to reverse the finding of the trier of fact simply because it is convinced that it would have decided the case differently. . . . If the district court’s account of the evidence is plausible in light of the record viewed in its entirety, the court of appeals may not reverse it even though convinced that had it been sitting as the trier of fact, it would have weighed the evidence differently. Where there are two permissible views of the evidence, the factfinder’s choice between them cannot be clearly erroneous.” (citations omitted)); *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 123 (1969) (“In applying the clearly erroneous standard to the findings of a district court sitting without a jury, appellate courts must constantly have in mind that their function is not to decide factual issues *de novo*.”). In fact, even the choice between judge and jury, see *supra* Part III.C.3., should result in a difference in reversal rate. See *supra* note 151.

¹⁵⁵ Dreyfuss, *supra* note 153, at 47. See also Moore, *District Court Judges*, *supra* note 14, at 28–29 (“[T]he increased affirmance rate would nonetheless raise confidence in the judicial system. Greater deference would also discourage appeals and increase settlements earlier in the litigation process. In addition, it may result in more thoughtful claim construction by district court judges.”).

¹⁵⁶ In his *Markman I* concurrence, Judge Mayer commented: “Indeed, the effect of this case is to make of the judicial process a charade, for notwithstanding any trial level activity, this court will do pretty much what it wants under its *de novo* retrial.” *Markman I*, 52 F.3d at 993 (Mayer, J., concurring).