



UNIVERSITY OF CALIFORNIA
HASTINGS COLLEGE OF THE LAW

LEGAL STUDIES RESEARCH PAPER SERIES

Research Paper No. 23

PATENT CLAIM CONSTRUCTION AS A
FORM OF LEGAL INTERPRETATION

Christian E. Mammen

mammenc@uchastings.edu

12 John Marshall Review of Intellectual Property Law 40 (2012)

THE JOHN MARSHALL REVIEW OF INTELLECTUAL PROPERTY LAW



PATENT CLAIM CONSTRUCTION AS A FORM OF LEGAL INTERPRETATION

CHRISTIAN E. MAMMEN

ABSTRACT

Since the U.S. Supreme Court's landmark decision, *Markman v. Westview Instruments, Inc.*, courts have employed a textualist approach when construing patent claims. Claim construction has been held to be purely a matter of law, which leaves no room for deference when the construction is reconsidered on appellate review. But as argued in this article, patent claims are a unique type of legal text, and cannot simply be analogized to statutes or contracts, which courts and scholars occasionally attempt to do. Taking lessons from the general legal theory of interpretation, the textualist approach should only be a starting point for the interpretation of patents, rather than an all-encompassing approach. By adapting and using a range of theories of legal interpretation outside the patent sphere, we can find an approach to patent claim construction that more consistently results in satisfactory constructions. This may, for example, include consideration of fact-intensive inquiries such as an inventor's intention and public policy. As a corollary, an expansive jurisprudential approach to patent claim construction calls into question current patent doctrine concerning the standard of review—should claim construction really be subject to *de novo* review?

Copyright © 2012 The John Marshall Law School



Cite as Christian E. Mammen, *Patent Claim Construction as a Form of Legal Interpretation*, 12 J. MARSHALL REV. INTELL. PROP. L. 40 (2012).

PATENT CLAIM CONSTRUCTION AS A FORM OF LEGAL INTERPRETATION

CHRISTIAN E. MAMMEN

INTRODUCTION	41
I. PATENT LAW BACKGROUND.....	43
A. What is a Patent?	43
B. Key Cases.....	45
II. PATENT INTERPRETATION AS LEGAL INTERPRETATION	49
A. Characterizing Patents as a Kind of Law.....	50
B. Judicial Review of Claim Constructions	51
C. Of Contracts, Statutes, and Land Patents	52
D. Summary	57
III. APPLYING THE THEORY OF LEGAL INTERPRETATION TO PATENT CLAIM CONSTRUCTION	57
A. A Thought Experiment	58
1. The Statute.....	58
2. The Patent	58
3. The Contract.....	59
B. Penumbras of Meaning	59
1. Doctrine of Equivalents	61
2. Dependent and Independent Claims	61
3. Burk and Lemley’s Proposal to Adopt “Central Claiming”	62
4. Concluding Thoughts—Core and Penumbra.....	62
C. Multiple Linguistic Registers	64
D. The Absence of Intentionalism.....	67
CONCLUSION	68

PATENT CLAIM CONSTRUCTION AS A FORM OF LEGAL INTERPRETATION

CHRISTIAN E. MAMMEN*

INTRODUCTION

The construction of patent claims is a form of legal interpretation. “Of course it is,” patent lawyers will respond. That was the central holding of *Markman v. Westview Instruments, Inc.*¹ But what *Markman* missed, and what patent lawyers have missed for over fifteen years since *Markman*, is that there is a large body of jurisprudence concerning legal interpretation, generally, that can help solve the vexing problems about claim construction that patent law has been unable to solve on its own. Legal philosophers are no less to blame. They have largely ignored patent law as well. Thus, the seemingly straightforward observation that claim construction is legal interpretation² shines a spotlight on a connection that has long been neglected by both patent lawyers and legal philosophers.

Viewing claim construction as legal interpretation matters because courts and scholars continue to struggle with the question of how to construe patent claims. The various threads of arguments, some of which are discussed in this article, are often handled as incomplete theoretical fragments. Undertaking a systematic effort to provide a theoretical account of patent claim construction promises to facilitate the synthesis of these fragments into a more complete whole, and at the same time, provides an additional measure to evaluate the relative merits of many of those fragments.

As someone who has spent significant time in both the silos of legal philosophy and patent law, the lack of attention on this connection strikes me as both incomprehensible and completely unsurprising. I believe that this intersection is fertile ground. This article will use several insights from legal philosophy to argue

* © Christian E. Mammen 2012. Christian E. Mammen was the Acting Assistant Dean of International and Graduate Programs and a Visiting Professor of Law at the University of California Hastings College of the Law in San Francisco, California during 2011-2012. He has taught at Hastings since 2009, where he is currently a Lecturer in Law. He earned a D.Phil. in Law from Oxford in 2001, where he wrote on theoretical aspects of using legislative history in American statutory interpretation. During Trinity Term 2011, Dr. Mammen returned to Oxford University as an Academic Visitor of the Faculty of Law and Visiting Research Fellow with the Oxford Intellectual Property Research Centre. Additionally, since 1997, Dr. Mammen has practiced intellectual property litigation in San Francisco and Silicon Valley.

He is grateful to the invaluable contributions of Evan Brewer, as well as support and commentary from the Oxford Intellectual Property Research Centre, the members of the Oxford University Jurisprudence Discussion Group, the UC Hastings Junior Faculty Forum, and participants in the 12th Annual Intellectual Property Scholars' Conference.

¹ *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 388 (1996).

² *Cf. Fashion Fabrics of Iowa, Inc. v. Retail Investors Corp.*, 266 N.W.2d 22, 25 (Iowa 1978) (“Interpretation involves ascertaining the meaning of contractual words; construction refers to deciding their legal effect.”); Lawrence B. Solum, *The Interpretation-Construction Distinction*, 27 CONST. COMMENT. 95 (2010). This article rejects the interpretation-construction distinction as artificial, at least in the present context. To determine the meanings of patent claim terms is, in essence, to determine their legal effect.

that *Cybor Corp. v. FAS Technologies, Inc.*³ incorrectly ruled that claim construction should be reviewed without deference.⁴

From the perspective of legal philosophy, and in particular the theory of legal interpretation, patents seem to be off the radar. They do not fit neatly within the traditional paradigms of constitutional, statutory, and contractual interpretation that form the bread and butter of most work in legal interpretation. Moreover, legal theorists tend to view patent law as the province of a highly technical subspecialty, accessible mainly to those who also have training in the hard sciences. From the perspective of patent lawyers, patent law is also seen as the province of a highly technical subspecialty, accessible mainly to those who also have training in hard sciences. Moreover, many patent lawyers simply lack exposure to the jurisprudence of legal interpretation.

Although the issues raised by patent claim construction in the United States—particularly since the 1996 landmark Supreme Court decision in *Markman v. Westview Instruments, Inc.*⁵—are closely related to issues of legal interpretation with which theorists have long wrangled, there has been surprisingly little effort to bridge the divide.⁶ Most scholarship on the issue of patent claim construction comes from within the “silo” of patent law, and makes only superficial (if any) reference to the deeper theoretical issues lurking therein.

This article aims to remedy that deficiency. It is an important topic for several reasons. First, it is jurisprudentially interesting. Second, the absence of a firm theoretical grounding for patent claim construction may be a contributing cause to the ongoing uncertainty about patent claim construction throughout the litigation process, and this uncertainty increases litigation costs and decreases the predictability of litigation. All patent cases in the U.S. are appealed to the same court—the U.S. Court of Appeals for the Federal Circuit.⁷ The Federal Circuit

³ *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448 (Fed. Cir. 1998).

⁴ *Id.* at 1455, 1480; *see also* Petition for Writ of Certiorari at i, *Retractable Techs., Inc. v. Becton, Dickinson & Co.*, No. 11-1154 (U.S. Mar. 20, 2012), 2012 WL 957505.

The Questions Presented [in the petition for writ of certiorari] are:

1. Whether a court may depart from the plain and ordinary meaning of a term in a patent claim based on language in the patent specification, where the patentee has neither expressly disavowed the plain meaning of the claim term nor expressly defined the term in a way that differs from its plain meaning.

2. Whether claim construction, including underlying factual issues that are integral to claim construction, is a purely legal question subject to de novo review on appeal.

Id.

⁵ *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996).

⁶ *E.g.*, Harry Surden, *Efficient Uncertainty in Patent Interpretation*, 68 WASH. & LEE L. REV. 1737, 1740 (2011); William R. Hubbard, *Efficient Definition and Communication of Patent Rights: The Importance of Ex Post Delineation*, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 327, 329–31 (2009); Andrew B. Dzeguze, *Did Markman and Phillips Answer the Right Question? A Review of the Fractured State of Claim Construction Law and the Potential Use of Equity to Unify It*, 15 TEX. INTELL. PROP. L.J. 457, 459 (2007). *But see* Craig Allen Nard, *A Theory of Claim Interpretation*, 14 HARV. J.L. & TECH. 1, 3–6 (2000).

⁷ *See* 28 U.S.C. § 1295(a)(1), (a)(4) (2012).

reviews patent claim constructions *de novo* (consistent with the standard of review for issues of legal interpretation), and its high reversal rate is well known.⁸ Often, the construction of particular patent claim terms can be case-dispositive. However, claim constructions are not appealable on an interlocutory basis, meaning that even after the terms are construed, the parties must continue to litigate through trial (or other final resolution) in order to seek appellate review of the claim construction.⁹ If the Federal Circuit modifies the lower court's constructions, the case is typically remanded for another trial, an outcome that can be cost-prohibitive.¹⁰

Third, trial courts are increasingly limiting the number of patent claim terms that can be construed to ten per case or ten per patent.¹¹ This raises a number of questions for litigants: How do you pick which ten terms to dispute? Is a "term" the same as a single word, a term of art (which may be several words), short phrases, or even entire claim limitations? And of course, there is the unanswered background question—what happens to claim terms that remain unconstrued? Generally, even if those terms are ambiguous or otherwise need an interpretive gloss, the range of permissible interpretations are not such that choosing one over another would make a difference to the outcome of the case.

I. PATENT LAW BACKGROUND

A. What is a Patent?

Before delving into the jurisprudential issues, it will be useful to provide a bit of background about U.S. patent law and the role that claims play in patents. In modern practice, it is said that "the name of the game is the claim."¹² Indeed, in current patent practice, the claim is not just the name of the game, but tends to be the entire game.

⁸ See Michael Saunders, *A Survey of Post-Phillips Claim Construction Cases*, 22 BERKELEY TECH. L.J. 215, 233–37 (2007); Peter Lee, *Antiformalism At the Federal Circuit: The Jurisprudence of Chief Judge Rader*, 7 WASH. J. L. TECH. & ARTS 405, 412–14 (2012).

⁹ See 28 U.S.C. § 1292(c); Edward Reines & Nathan Greenblatt, *Interlocutory Appeals of Claim Construction in the Patent Reform Act of 2009, Part II*, 2010 PATENTLY-O PAT. L.J. 7, 7–9.

¹⁰ See Jeffrey A. Lefstin, *Claim Construction, Appeal, and the Predictability of Interpretive Regimes*, 61 U. MIAMI L. REV. 1033, 1039 (2007) (noting that vastly lower appeal cost compared to full trial provides strong incentive to appeal, and in conjunction with Federal Circuit's high reversal rate increases costs of litigation); David L. Schwartz, *Practice Makes Perfect? An Empirical Study of Claim Construction Reversal Rates in Patent Cases*, 107 MICH. L. REV. 223, 226 (2008) (explaining that Federal Circuit's high reversal rate discourages settlements, imposes substantial costs on litigants, and decreases judicial efficiency).

¹¹ *E.g.*, N.D. Cal. Patent L.R. 4-1(b) ("The parties shall also jointly identify the 10 terms likely to be most significant to resolving the parties' dispute, including those terms for which construction may be case or claim dispositive."); N.D.N.Y. L. Pat. R. 4.4(b) ("No more than ten (10) patent terms or phrases may be presented to the Court for construction, absent prior leave of Court upon a showing of good cause.").

¹² Giles S. Rich, *The Extent of the Protection and Interpretation of Claims—American Perspectives*, 21 INT'L REV. INDUS. PROP. & COPYRIGHT L. 497, 499 (1990) ("To coin a phrase, the name of the game is the claim.").

A patent has several distinct parts. There is a written description, or specification, typically accompanied by one or more drawings.¹³ At the end of the patent are one or more claims. Each claim is written as a single sentence that describes a complete invention.¹⁴ Claims may be either independent, in which case they stand on their own as a complete invention, or dependent, in which case they add a further limitation to an independent claim.¹⁵ An independent claim often has a preamble, which sets the context of the invention, followed by one or more limitations or clauses that describe aspects of the invention. Each claim represents a distinct right.¹⁶

It was not always this way. Throughout the nineteenth century, patent claims were of minor importance.¹⁷ Instead, the patent as a whole described an invention.¹⁸ Over a period, roughly corresponding to the first half of the twentieth century, the practice of using patent claims grew in prominence and became more precisely defined.¹⁹ Even after the rise of patent claims, it was not clear that they posed a problem of legal interpretation. Until the 1990's, the construction of claims was considered by some courts to be a fact issue for the jury, which had to be decided as part of their deliberations about whether the patent claims were valid and infringed.²⁰

¹³ U.S. PAT. & TRADEMARK OFFICE, U.S. DEP'T OF COMMERCE, MANUAL OF PATENT EXAMINING PROCEDURE § 608.01(a) (8th ed. Rev. 9, Aug. 2012) [hereinafter MPEP].

¹⁴ *Id.* § 608.01(m).

¹⁵ *Id.* § 608.01(i).

¹⁶ See 3 DONALD S. CHISUM, CHISUM ON PATENTS § 8.01 (2012).

¹⁷ See Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction?*, 157 U. PA. L. REV. 1743, 1766–67 (2009) (noting the earliest versions of the Patent Act required only a patent specification and not the claims); Patent Act of 1790, ch. 7, § 2, 1 Stat. 109, 110–11. It was not until the Patent Act of 1836 that claims were required. Patent Act of 1836 § 6, Ch. 357, 5 Stat. 117, 119 (requiring an applicant to “particularly specify and point out the part, improvement, or combination, which he claims as his own invention or discovery.”).

¹⁸ See Burk & Lemley, *supra* note 17, at 1766–67.

¹⁹ See *id.* at 1767–68.

²⁰ See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 1017–20 (Fed. Cir. 1995) (Newman, J., dissenting); *McGill Inc. v. John Zink Co.*, 736 F.2d 666, 672 (Fed. Cir. 1984) (“If, however, the meaning of a term of art in the claims is disputed and extrinsic evidence is needed to explain the meaning, construction of the claims could be left to a jury.”); *Bio-Rad Labs, Inc. v. Nicolet Instrument Corp.*, 739 F.2d 604, 614 (Fed. Cir. 1984) (considering “only whether reasonable jurors could have interpreted the claim in the manner presumed”); *Palumbo v. Don-Joy Co.*, 762 F.2d 969, 974 (Fed. Cir. 1985) (“[W]hen the meaning of a term in the claim is disputed and extrinsic evidence is necessary to explain that term, then an underlying factual question arises, and construction of the claim should be left to the trier or jury under appropriate instruction.”); *H.H. Robertson, Co. v. Union Steel Deck, Inc.*, 820 F.2d 384, 389 (Fed. Cir. 1987) (“[I]nterpretation of a claim may depend on evidentiary material about which there is a factual dispute, requiring resolution of factual issues as a basis for interpretation of the claim.”); *Perini Am., Inc. v. Paper Converting Mach. Co.*, 832 F.2d 581, 584 (Fed. Cir. 1987) (“[L]egal conclusions are dictated by established facts and not the other way around, and does not change the nature of the meaning-of-terms inquiry from one of fact to one of law.”); *Tol-O-Matic, Inc. v. Proma Produkt-Und Mktg. Gesellschaft*, 945 F.2d 1546, 1550 (Fed. Cir. 1991) (“When the meaning of a term in a patent claim is unclear, subject to varying interpretations, or ambiguous, the jury may interpret the term en route to deciding the issue of infringement.”); *Bischoff v. Wethered*, 76 U.S. 812, 814–15 (1869) (explaining that claim construction is not a matter of law to be decided by court).

The question of whether patent claim construction was a legal issue for the judge or a fact issue for the jury raised several other doctrinal and practical questions. For example, is there a constitutional right to have a jury decide patent interpretation questions? The answer to this question, as with other Seventh Amendment issues, in turn depends on whether there was a jury right to that kind of issue in 1791, when the Seventh Amendment was adopted.²¹ Additionally, there was the question of the relative institutional competence, as between a lay jury and a court of general jurisdiction, to determine the meanings of patent claim terms.²² Third, following the consolidation of appellate authority for patent cases with the establishment of the U.S. Court of Appeals for the Federal Circuit in 1982,²³ there also arose the dimension of institutional ambitions and centralization of power. The Federal Circuit's power is enhanced if it gets the last word to provide *de novo* review of such matters as patent claim construction; compared with the clear error or abuse of discretion standards of review, the Federal Circuit's obligation to defer to decisions of juries and trial judges is diminished.²⁴

B. Key Cases

There are four landmark appellate cases that define the modern doctrine of patent claim construction. First, of course, is *Markman v. Westview Instruments, Inc.*²⁵ *Markman* is a 1996 Supreme Court case, affirming a 1995 *en banc* ruling of the Federal Circuit.²⁶ The patent at issue in *Markman* involved an inventory control method for use in dry cleaning businesses.²⁷ That is, when you take clothes to the dry cleaner, they may be combined with other customers' clothing for purposes of cleaning, but there must be a way of keeping track and of making sure everyone gets the right clothes back. The *Markman* invention involved using tags on each article of clothing and tracking those tags in a database.²⁸ The claim construction issue was whether the word "inventory" in the claims meant "articles of clothing" or could also include transaction totals or dollars.²⁹ The case involved three broad, intertwined issues:

- (1) Who decides claim constructions?

²¹ See *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 376 (1996).

²² *Id.* at 387.

²³ Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, sec. 127, § 1295, 96 Stat. 25, 37-39. That Act created a specialized appellate court, the U.S. Court of Appeals for the Federal Circuit, to handle all appeals of patent cases. 28 U.S.C. § 1295 (2012).

²⁴ Arguably, this serves the value of implementing greater stability and predictability in patent law. However, numerous studies have shown that the Federal Circuit reverses lower courts' claim constructions at a high rate. See *E.g.*, Schwartz, *supra* note 10, at 268; Ted L. Field, "Judicial Hyperactivity" in the Federal Circuit: An Empirical Study, 46 U.S.F. L. REV. 721, 723 (2012). The high reversal rate undermines these very values of stability and predictability.

²⁵ *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996).

²⁶ *Id.* at 391.

²⁷ *Id.* at 374.

²⁸ *Id.*

²⁹ *Id.* at 375-76 (holding that "inventory" includes cash as well as physical inventory).

(2) What evidence does the claim-construer use to determine the claim meaning?

(3) Is there a Seventh Amendment jury right to claim construction?³⁰

Markman gave us definitive answers to the first and third of these—the *court* decides claim construction issues, and there is no Seventh Amendment right to have a jury construe claims.³¹ But the second question has proved thornier and emerged from *Markman* less settled.

The second question, what evidence courts may use in construing claims, teed up a list of materials that continued to be debated for several more years.³² Some of the possible materials include:

- The claim language itself
- Other claims
- The specification
- The file history
- Testimony of experts
- Dictionaries
- Treatises and other secondary sources (including sales literature of the accused products)
- Testimony of the inventor (used in the *Markman* case, but not included in the Federal Circuit’s list)³³

Notably missing from this list is testimony from the patent examiner at the U.S. Patent and Trademark Office (“the PTO”); the PTO has a policy of prohibiting its examiners from testifying about the patents they examine.³⁴

Markman unambiguously established that claim construction is a *textualist* enterprise.³⁵ The issue to be decided is, “what do the words of the patent claim mean?” Other questions, such as “what is the inventor’s invention?” or “what did the inventor intend the patent claims to cover?” or “what did the examiner intend the scope of the patent to be?” are not part of the analysis. The court justified this approach, basing it on a strong “public notice” rationale—that is, the text of a patent is what the public has access to, and because the grant of a patent acts to limit the ability of the public to make or do certain things, they should receive clear notice of the scope of those limits.³⁶

The *en banc* Federal Circuit did struggle briefly with how to characterize patents as “legal” documents. At one point, they postulated that “[t]he patent is a

³⁰ *Id.* at 376.

³¹ *Id.* at 384, 388–89.

³² *See, e.g.*, *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448 (Fed. Cir. 1998); *Texas Digital Sys. Inc. v. Telegenix Inc.*, 308 F.3d 1193 (Fed. Cir. 2002); *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*).

³³ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995).

³⁴ 37 C.F.R. § 104.22, 23 (2012); MPEP, *supra* note 13, § 1701.01.

³⁵ *Nard*, *supra* note 6, at 14–15. It is not entirely settled that *Markman* was revolutionary in this regard; the case law may already have been trending in that direction, in view of the rise of patent claims as the central rights-conferring aspect of patents over the several decades prior to *Markman*. *See* *Burk & Lemley*, *supra* note 17, at 1770.

³⁶ *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 373 (1996) (quoting *McClain v. Ortmyer*, 141 U.S. 419, 424 (1891) (noting that a patent must “apprise the public of what is still open to them.”)).

fully integrated written instrument” and, therefore, is to be construed by the court. The court was citing *Williston on Contracts*, a leading treatise on American contract law that has a strong textualist orientation.³⁷ The court also found support for an analogy to statutory law, noting that “[a] patent is a government grant of rights to the patentee[.]”³⁸ accordingly, via patent construction, “the court is defining the federal legal rights created by the patent document.”³⁹ These brief comments represent the high-water mark of the courts’ effort to situate patent claim construction within the larger field of legal interpretation.

Two years after the Supreme Court’s ruling in *Markman*, the Federal Circuit again visited the issue of claim construction in *Cybor Corp. v. FAS Technologies, Inc.*⁴⁰ The technology at issue in *Cybor* involved a dual-stage pump that was used to apply liquid in precise, small volumes.⁴¹ The claim term at issue was a limitation requiring that liquid flow “to” a second pumping means.⁴² The Federal Circuit held that patent claim construction, as a pure issue of law, is subject to *de novo* review by the appellate court.⁴³ That is, no deference is owed to any underlying determinations by the trial court.⁴⁴ Taken in the aggregate, this may seem a sensible position, but surely any claim construction is based on a number of underlying factual determinations. Yet those are reviewed without deference.

In the 2002 *Texas Digital Systems, Inc. v. Telegenix Inc.* decision,⁴⁵ the Federal Circuit upended settled expectations about the relative priority of the materials used in support of claim construction. In a narrowly textualist and heavily semantics-oriented ruling, the court held that technical dictionaries should have more weight in construing claims than the immediate context of the claim terms’ usage in the specification and prosecution history.⁴⁶ The claims involved a controller for the color of pixels in an LED display. The relevant claim terms were “activating”⁴⁷ and

³⁷ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 978 (Fed. Cir. 1995). Compare that language with Corbin’s treatise, which was not relied on by the Federal Circuit. 6 PETER LINZER, CORBIN ON CONTRACTS § 25.2, 25.7 (Joseph M. Perillo ed., 2010) (discussing “integration” as a concept which encompasses evidence outside of the original writing in order to determine the true intent behind an agreement).

³⁸ *Markman*, 52 F.3d. at 978 (citing 35 U.S.C. § 154).

³⁹ *Id.* at 979.

⁴⁰ *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448 (Fed. Cir. 1998).

⁴¹ *Id.* at 1468.

⁴² *Id.* at 1456.

⁴³ *Id.* at 1451.

⁴⁴ *Id.* at 1455 (“[T]he Supreme Court endorsed this court’s role in providing national uniformity to the construction of a patent claim, a role that would be impeded if we were bound to give deference to a trial judge’s asserted factual determinations incident to claim construction.”); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1334–35 (Fed. Cir. 2005) (en banc) (Mayer, J., dissenting) (“If we persist in deciding the subsidiary factual components of claim construction without deference, there is no reason why litigants should be required to parade their evidence before the district courts or for district courts to waste time and resources evaluating such evidence.”).

⁴⁵ *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193 (Fed. Cir. 2002)

⁴⁶ *Id.* at 1202–03.

⁴⁷ *Id.* at 1206.

“selectively controlling the durations of the time intervals of activation.”⁴⁸ This ruling received a cool reception within the patent law community.⁴⁹

Fourth, in 2005, the Federal Circuit again convened *en banc* to decide *Phillips v. AWH Corp.*⁵⁰ The patent in *Phillips* involved vandalism-resistant walls with a “means disposed inside the shell for increasing its load bearing capacity” comprising “internal steel baffles.”⁵¹ The question was whether “baffles” could be disposed at any angle to the wall surfaces (particularly whether they could be perpendicular to the wall surface).⁵² The Federal Circuit backtracked on *Texas Digital* and announced a new hierarchy of information to be used in claim construction. This hierarchy remains the controlling doctrine today.

- **Words of the claims:**⁵³ The words of the claims should be given their ordinary and customary meaning, which they would have to a person of ordinary skill in the art (POSITA) at the time of the invention.
- **Other claims:**⁵⁴ If there is consistent usage of the same words among multiple claims, or if different words are used to draw distinctions between different claim terms in other claims, that may be taken into account.
- **Patent specification:**⁵⁵ There is a delicate balance to draw in terms of what information may be gleaned from the specification. If a patentee has been her own lexicographer, by defining claim terms in the specification, those definitions may be used. This provides good technological and temporal contextual information that is closely associated with the context in which the claim terms were used. However, the court may not use the specification to add additional limitations to the claims, when those additional limitations are not specifically based on the meanings of claim language.
- **Prosecution history:**⁵⁶ The prosecution history may be consulted, but it is of lesser relevance to the meanings of the claim terms in the issued patent, because the prosecution history represents an “ongoing negotiation” between the inventor and the Patent Office.
- **Extrinsic evidence:**⁵⁷ After these forms of “intrinsic” evidence come a list of other categories of “extrinsic” evidence, including expert testimony, inventor testimony, dictionaries, and treatises. These sources may be used in

⁴⁸ *Id.*

⁴⁹ See, e.g., Michael S. Connor & John A. Wasleff, *Where Do We Go from Here? A Critical Examination of Existing Claim Construction Doctrine*, 86 J. PAT. & TRADEMARK OFF. SOC'Y 878, 886 (2004); Jennifer R. Johnson, *Out of Context: Texas Digital, the Indefiniteness of Language, and the Search for Ordinary Meaning*, 44 IDEA 521, 529–31 (2004); Jennifer K. Bush, John E. Gartman & Elizabeth I. Rogers, *Six Patent Law Puzzlers*, 13 TEX. INTELL. PROP. L.J. 1, 12–13 (2004); Karen C. Mitch, *Pondering A “Baffling” Situation: The “Reconstruction” of Claim Construction*, 4 J. MARSHALL REV. INTELL. PROP. L. 623, 635–36 (2005).

⁵⁰ *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*).

⁵¹ *Id.* at 1311 (emphasis added).

⁵² *Id.* at 1324–25.

⁵³ *Id.* at 1314.

⁵⁴ *Id.* at 1314–15.

⁵⁵ *Id.* at 1315–17.

⁵⁶ *Id.* at 1317.

⁵⁷ *Id.*

limited circumstances to illuminate relevant scientific principles, the meanings of terms, and the state of the art at the time of the invention.

- **Expert testimony:** Testimony by experts as to what the claim term would have meant to a person of skill in the art at the time of the invention is, essentially, a disfavored form of evidence. The courts recognize that experts who are retained by parties have a high risk of partisanship in the constructions they advocate, and that their testimony is therefore somewhat less reliable than other forms of mainly documentary evidence. Conclusory or unsupported assertions are particularly not useful.⁵⁸
- **Inventor testimony:** Likewise, inventor testimony, particularly testimony in the pending litigation, is dubious because of the high risk of bias.
- **Dictionaries and learned treatises:** The *Phillips* court singled out *Texas Digital* and its emphasis on dictionaries for extended discussion. After noting the significant drawbacks on excessive reliance on dictionaries, the court acknowledged that dictionaries “are often useful to assist in understanding the commonly understood meaning of words and have been used both by our court and the Supreme Court in claim interpretation.”⁵⁹

II. PATENT INTERPRETATION AS LEGAL INTERPRETATION

Even within—or perhaps because of—the bounds of these major rulings, *Markman*, *Cybor*, and *Phillips*, there is a persistent, collective sense among both practitioners and theorists that the doctrine still is not quite right.⁶⁰ Claim construction rulings are seen as relatively volatile, unpredictable, and subject to second-guessing on appeal.

The argument, here, is that a closer study of patents-as-a-type-of-law, together with an application of certain theories of legal interpretation to patent claim construction, will aid in coming to a clearer understanding of the claim construction enterprise. In particular, the use of legal theory will illustrate two important, related points about claim construction: that textualism is generally only a starting point for legal interpretation, rather than the entire exercise, and that the many factual and contextual assessments that contribute to a determination of how a claim should be construed warrant deference to those decision makers who are most familiar with the record.

⁵⁸ *Id.* at 1318.

⁵⁹ *Id.* at 1322.

⁶⁰ See, e.g., Burk & Lemley, *supra* note 17, at 1766; Dzeguze, *supra* note 6, at 458; Joseph Scott Miller, *Enhancing Patent Disclosure for Faithful Claim Construction*, 9 LEWIS & CLARK L. REV. 177, 177 (2005).

A. Characterizing Patents as a Kind of Law

The characterization of patents in the United States is complex and does not seem to yield any clear guidance in framing analogies between patent claims and other forms of law. We can say this much: Patents are issued by the PTO,⁶¹ a division of the U.S. Department of Commerce,⁶² according to specified procedures.⁶³ The issuance or non-issuance of a particular patent can be appealed, first to tribunals within the PTO and ultimately to Article III courts.⁶⁴ Once a patent has issued, it is binding on (and enforceable against) members of the general public,⁶⁵ but it is also subject to invalidation as failing to meet the statutory prerequisites of novelty, nonobviousness, written description, and the like.⁶⁶

The authority for this particular legal structure can be traced to the Constitution, which specifically authorizes the issuance of patents. Article I, Section 8 of the Constitution authorizes the issuance of patents “to promote the useful arts.”⁶⁷ This, in turn, is implemented via the Patent Act, which is codified at Title 35 of the United States Code.⁶⁸ However, Title 35 only provides high-level authorization for the issuance of patents for useful, novel, and nonobvious inventions and authorizes the PTO to issue regulations concerning the issuance of patents.⁶⁹ The PTO’s regulations appear in Title 37 of the Code of Federal Regulations, and they describe the patent examination process.⁷⁰ Further, the PTO has issued a set of internal guidelines for patent examiners (the PTO employees who determine whether particular patent applications should issue as patents), called the Manual of Patent Examining Procedure (“MPEP”).⁷¹

The courts of the United States have exclusive jurisdiction to adjudicate patent infringement disputes.⁷² According to some theorists, the patent litigation process is itself a continuation of the process of shaping the boundaries of patents. For example, Professor Mark Lemley has argued that the PTO engages in “rational ignorance” during patent examination and does only a cursory job considering the patentability of applications that are pending before it.⁷³ It is known that many issued patents never see the light of day. That is, only a small percentage of issued patents are ever litigated or licensed.⁷⁴ Therefore, according to Lemley, it is

⁶¹ 35 U.S.C. § 1(a) (2012).

⁶² *Id.*

⁶³ *Id.* §§ 21–26.

⁶⁴ *Id.* §§ 134, 141.

⁶⁵ *Id.* § 271.

⁶⁶ *Id.* §§ 101–103, 112.

⁶⁷ U.S. CONST. art. I, § 8, cl. 8.

⁶⁸ 35 U.S.C. §§ 1–376 (2012).

⁶⁹ *Id.* §§ 2(a)(1), 2(b)(2), 101–03.

⁷⁰ 37 C.F.R. §§ 1.1–501.11 (2012).

⁷¹ See MPEP, *supra* note 13. Overlaying this domestic U.S. legal structure are several treaties aimed at harmonizing patent laws internationally. The impact of those treaties on issues of claim interpretation is beyond the scope of this article.

⁷² 28 U.S.C. § 1338 (2012).

⁷³ Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1511 (2001).

⁷⁴ *Id.* at 1501.

economically rational not to spend a lot of resources examining *all* patents.⁷⁵ Because we cannot tell *ex ante* which patents are the ones that will be litigated or licensed, Lemley argues that we—rationally—leave it to the litigation process for the more careful analysis of the patents.⁷⁶

B. Judicial Review of Claim Constructions

There is one appellate court that is primarily responsible for reviewing patent cases, including claim construction rulings: the United States Court of Appeals for the Federal Circuit.⁷⁷ There are at least three separate procedural paths by which appeals involving patent claim construction issues can arrive at the Federal Circuit. Each of these paths has a potentially different standard of review, following potentially different methodologies—and different purposes—for construing claims.

The first path is judicial review of denied patent applications. If a PTO examiner denies a patent application (e.g., because the claims as written are invalid in light of prior art), that denial may be appealed to the Patent and Appeal Trial Board (“PATB”) (formerly the Board of Patent Appeals and Interferences).⁷⁸ Rulings of the PATB, in turn, are appealable to the Federal Circuit.⁷⁹ In reviewing patent applications, the examiners are required to give claim language the “broadest reasonable construction,”⁸⁰ which is a different standard than that used by district courts.⁸¹

The second path is an appeal from patent infringement litigation in U.S. District Courts.⁸² This is the “normal” path of patent infringement litigation,⁸³ and is the kind of procedure that was in play in the *Markman* case.⁸⁴

The third path is being used due to an increasingly popular procedure of litigating patent infringement issues before administrative law judges at the International Trade Commission.⁸⁵ Federal Circuit review is one option for review of

⁷⁵ *Id.* at 1497.

⁷⁶ *Id.* at 1529. One implication of Lemley’s observation is that PTO interpretations of patent claim language during the examination process are not, or should not be, entitled to deference during litigation.

⁷⁷ 28 U.S.C. § 1295(a)(1), (a)(4) (2012).

⁷⁸ 35 U.S.C. § 134(a). The America Invents Act replaced the Board of Patent Appeals and Interferences with the Patent and Appeal Trial Board, effective September 16, 2012. Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 7, 125 Stat. 284, 313–15 (2011).

⁷⁹ 35 U.S.C. § 141(a).

⁸⁰ MPEP, *supra* note 13, § 2111 (citing and implementing the Federal Circuit’s ruling in *Phillips v. AWH Corp.* that the PTO employ the “broadest reasonable interpretation” standard).

⁸¹ *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1369 (Fed. Cir. 2004).

⁸² 28 U.S.C. § 1338(a) (2012) (“The district courts shall have original jurisdiction of any civil action arising under any Act of Congress relating to patents . . .”).

⁸³ *See supra*, Part I.B.

⁸⁴ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970 (Fed. Cir. 1995).

⁸⁵ *See* David L. Schwartz, *Courting Specialization: An Empirical Study of Claim Construction Comparing Patent Litigation Before Federal District Courts and the International Trade Commission*, 50 WM. & MARY L. REV. 1699, 1702 (2009) (“Although the ITC was established in 1916, only recently has it become a popular forum for adjudication of patent infringement claims. . . . Given the [administrative law judge]’s extensive experience with patent infringement

ITC decisions.⁸⁶ Although there are differences between ITC actions and district court patent litigation,⁸⁷ claims appear to be construed similarly before the ITC as they are in district courts.⁸⁸

Thus, as a broad proposition, there are no clear answers that emerge from a global characterization of what kind of instrument a patent is. Nor are there clear answers based on how patents and patent claim constructions are reviewed on appeal. Rather, the approach to construction and the standard of review varies according to the purpose of the tribunal and the type of the proceeding.⁸⁹

This article takes an arbitrary narrowing step and focuses solely on appellate review of trial court interpretations of patent claims in patent infringement litigation filed in U.S. District Courts, as was addressed in *Markman*, *Cybor*, *Texas Digital*, and *Phillips*. In taking that narrowing step, it must be clear that there are other patent interpretation issues left unaddressed, including (for example) those relating to patent interpretation by patent examiners, by administrative review boards within the PTO, in judicial review of PTO decisions, and in proceedings before the International Trade Commission.

Markman establishes that claim construction is a textualist exercise. It is an exercise focused on the meanings of claim language to a person of ordinary skill in the art at the time of the claimed invention.⁹⁰ Experienced patent attorneys can rattle off this standard like a mantra. But there are many devils in the details of its implementation and application, not to mention its implications in the broader context of legal interpretation generally.

C. Of Contracts, Statutes, and Land Patents

As noted above, in the 1996 *Markman* case, the Court mentioned in passing that a patent, like a contract or a statute, is an integrated written instrument and,

litigation, they are widely reputed as experts in patent law.”); 19 U.S.C. § 1337 (a)(1)(B); 5 CHISUM, *supra* note 16, § 16.02[6][d].

⁸⁶ 19 U.S.C. § 1337(c).

⁸⁷ See Peter S. Menell, *The International Trade Commission’s Section 337 Authority*, 2010 PATENTLY-O PAT. L.J. 79, 84–87 (2010); Sapna Kumar, *The Other Patent Agency: Congressional Regulation of the ITC*, 61 FLA. L. REV. 529, 558–63 (2009) (“ITC decisions do not have preclusive effect in federal court”); Joel W. Rogers & Joseph P. Whitlock, *Is Section 337 Consistent With the GATT and the TRIPS Agreement?*, 17 AM. U. INT’L L. REV. 459, 523–24 (2002) (arguing that because ITC does not administer the Patent Act, ITC determinations are not entitled to Chevron deference); see also *Rapaport v. Dep’t of Treasury*, 59 F.3d 212, 216 (D.C. Cir. 1995).

⁸⁸ See Schwartz, *supra* note 85, at 1710; *Alloc, Inc. v. ITC*, 342 F.3d 1361, 1368 (Fed. Cir. 2003) (describing the method of interpreting claim language at the Federal Circuit and applying those standards to the ITC’s findings).

⁸⁹ See, e.g., *In re Gartside*, 203 F.3d 1305, 1314 (Fed. Cir. 2000); *Phillips v. AWH Corp.*, 363 F.3d 1207, 1211 (Fed. Cir. 2004).

⁹⁰ *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 373 (1996); *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 978 (Fed. Cir. 1995); see also *Phillips v. AWH Corp.*, 415 F.3d 1303, 1332 (Fed. Cir. 2005) (“[In] *Markman* hearings, . . . parties battle over experts offering conflicting evidence regarding who qualifies as one of ordinary skill in the art; the meaning of patent terms to that person; the state of the art at the time of the invention; . . . and on and on.”).

therefore, must be interpreted as a matter of law.⁹¹ The court also drew an analogy between the construction of intellectual property patent claims and land patent interpretation in which judges construe the words of the claims.⁹² This was, in essence, the limit of the Court's effort to situate patent claim construction within the general field of legal interpretation.⁹³

Since *Markman*, a variety of commentators have discussed how to apply contract interpretation methods or statutory interpretation methods to patent interpretation.⁹⁴ Relatively less has been written about applying the significantly-more-obscure jurisprudence of land patent interpretation to patent claim interpretation.⁹⁵ Sometimes these commentators have even debated whether patents are more like contracts or more like statutes.⁹⁶ Although there are some superficially appealing aspects to both sides of the argument, both analogies ultimately fail because the differences between patents, on the one hand, and contracts or statutes, on the other, gum up the analysis.

The contract analogy has superficial appeal in two respects. First, a patent confers rights on a private party, and it is up to that private party to enforce those

⁹¹ *Markman*, 517 U.S. at 373; *Markman*, 52 F.3d at 978.

⁹² *Markman*, 517 U.S. at 382 (citing *Brown v. Huger*, 62 U.S. 305 (1859)). *Brown* held:

With regard to the second part of this objection, that which claims for the jury the construction of the patent, we remark that the patent itself must be taken as evidence of its meaning; that, like other written instruments, it must be interpreted as a whole, its various provisions be taken as far as practicable in connection with each other, and the legal deductions drawn therefrom must be conformable with the scope and purpose of the entire document. This construction and these deductions we hold to be within the exclusive province of the court. The patent itself could not be altered by evidence aliunde, but proof as to the existence and character of the objects or subjects to which it was applicable was regular, and even necessary to give it effect.

Brown, 62 U.S. at 318.

⁹³ Additionally, although it is beyond the scope of this article, the broader task of evaluating the soundness of *Markman*'s conclusion that patent claim construction is an issue of law could benefit from a more thorough analysis of the relationship between the PTO's patent examination process and the Administrative Procedures Act. I have located only one major work of scholarship on this general subject. Stuart Minor Benjamin & Arti K. Rai, *Who's Afraid of the APA? What the Patent System Can Learn from Administrative Law*, 95 GEO. L.J. 269, 271 (2007).

⁹⁴ See, e.g., Lawrence B. Solum, *The Interpretation-Construction Distinction*, 27 CONST. COMMENT. 95 (2010); William R. Hubbard, *Efficient Definition and Communication of Patent Rights: The Importance of Ex Post Delineation*, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 327 (2009); Jonathan L. Moore, *A Patent Panacea? The Promise of Corbinized Claim Construction*, 9 CHI.-KENT J. INTELL. PROP. 1 (2009); Rochelle Cooper Dreyfuss, *In Search of Institutional Identity: The Federal Circuit Comes of Age*, 23 BERKELEY TECH. L.J. 787, 794–95 (2008); Frederick W. Claybrook, Jr., *It's Patent That "Plain Meaning" Dictionary Definitions Shouldn't Dictate: What Phillips Portends for Contract Interpretation*, 16 FED. CIR. B.J. 91 (2006); Timothy J. Malloy & Patrick V. Bradley, *Claim Construction: A Plea for Deference*, 7 SEDONA CONF. J. 191 (2006); Kristen Osenga, *Linguistics and Patent Claim Construction*, 38 RUTGERS L.J. 61 (2006).

⁹⁵ *Markman*, 517 U.S. at 382–83; *Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 599 (Fed. Cir. 1985); *Consol. Fruit-Jar Co. v. Wright*, 94 U.S. 92, 96 (1876) ("A patent for an invention is as much property as a patent for land."). My research has not located any scholarship comparing the interpretation of patents ("invention-patents") to land patents.

⁹⁶ See e.g., Hubbard, *supra* note 94, at 330–31, 339; Moore, *supra* note 94, at 2.

rights.⁹⁷ In this respect, patents look like private law contracts. However, this analogy fails, insofar as the patent holder enforces her rights against members of the public who infringe the patent (i.e. who encroach upon the rights granted under the patent), not another private party with whom the patent-holder has entered into a private agreement.⁹⁸

In this respect, it may be useful to refine the analysis to particular kinds of contracts. Rather than a simple offer-acceptance-consideration agreement of the sort studied in the first year of law school (e.g., Farmer F promises to deliver 1000 pounds of tomatoes to Grocer G on July 17 at a price of \$0.25 per pound . . .), there are some kinds of contracts that more closely resemble the relationships at issue in the patent sphere. For example, clickwrap agreements (or their cousin, browsewrap agreements) are structured as agreements between a single service provider and the general (service-using) public.⁹⁹ There is not a well-developed jurisprudence regarding construction of clickwrap/browsewrap agreements, but there is a reasonably well-established body of case law on the related subject of electronic contracts of adhesion. Electronic contracts of adhesion are generally interpreted strictly against a commercial party seeking the assent of a consumer.¹⁰⁰ Some courts adopt a “Doctrine of Reasonable Expectations” and will refuse to enforce contracts altogether when they deviate from those expectations.¹⁰¹ The same generally appears to be true for the sorts of software licenses used in clickwrap/browsewrap agreements, to the extent it is not inconsistent with federal law.¹⁰² However, the major jurisprudential concerns in these kinds of cases involve enforceability and enforcement, and where an enforceable contract has been formed, interpretation is typically governed by ordinary principles of interpretation.¹⁰³

This public-private hybrid nature of patents sometimes inspires another argument in support of the analogy based on the metaphorical rhetoric surrounding the constitutional origins of patent law. It is sometimes said that the U.S. Constitution provides for the granting of patents¹⁰⁴ because of a grand “patent bargain” between inventors and the public.¹⁰⁵ In exchange for disclosing their

⁹⁷ See Lemley, *supra* note 73, at 1501 (estimating that only two percent of patent owners enforce their patents).

⁹⁸ See Moore, *supra* note 94, at 6.

⁹⁹ Kevin W. Grierson, *Enforceability of “Clickwrap” or “Shrinkwrap” Agreements Common in Computer Software, Hardware, and Internet Transactions*, 106 A.L.R.5th 309, 309 n.1 (2003).

¹⁰⁰ Francis J. Mootz, *After the Battle of the Forms: Commercial Contracting in the Electronic Age*, 4 I/S: J. L. & POL’Y FOR INFO. SOC’Y 271, 312 (2008).

¹⁰¹ *Id.*

¹⁰² See *S.O.S., Inc. v. Payday, Inc.*, 886 F.2d 1081, 1088 (9th Cir. 1989) (explaining that the trial court applied a California rule, construing the contract against drafter and reversing that decision because it conflicted with federal copyright policy—that “copyright licenses are assumed to prohibit any use not authorized”); Ty Tasker & Daryn Pakcyk, *Cyber-Surfing on the High Seas of Legalese: Law and Technology of Internet Agreements*, 18 ALB. L.J. SCI. & TECH. 79, 121 (2008).

¹⁰³ See, e.g., *Attachmate Corp. v. Public Health Trust of Miami-Dade County Fla.*, 686 F. Supp. 2d 1140, 1150 (W.D. Wash. 2010).

¹⁰⁴ U.S. CONST. art. I, § 8, cl. 8 (conferring upon Congress the power “To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”).

¹⁰⁵ *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 150–51 (1989) (“The federal patent system thus embodies a carefully crafted bargain for encouraging the creation and disclosure

inventions to the public (via patents), inventors are granted the exclusive right to exclude others from exploiting those inventions for a limited period of time.¹⁰⁶ The incentive of limited-term exclusivity is intended “to promote the useful arts,” thus enhancing both the public good and providing financial rewards to inventors.¹⁰⁷ Buoyed by this contract-sounding rhetoric, some have argued that the “patent bargain” itself provides justification for regarding patents like contracts.¹⁰⁸

The metaphor of treating a “patent-bargain” as an actual contract breaks down for two main reasons. First, there is again a mismatch between the parties: While the “patent bargain” is struck between the patentee and the public at large, patent enforcement litigation is between the patentee and one (or more) particular individuals or entities.¹⁰⁹ Without some theory about how the individual should be held personally accountable for the “agreement” of the public at large, the metaphor breaks down. Second, there is an asymmetry in the subject matter in the sense that the “patent bargain” is based on an at-large notion of social benefit, without reference to the public value of particular patents. By contrast, patent enforcement litigation is always highly particular, focused on specific patents. To the extent there is any “meeting of the minds” about the “patent bargain,” it is far too abstract to be of any substantial value in interpreting the language of specific claim terms in a particular patent-in-suit. Relatedly, while contract interpretation is often an effort to discern the parties’ intent, any such effort in the patent context is necessarily one-sided—the patentee’s intent is plausibly discernible (i.e., to have the broadest valid coverage of the patent’s claims), while the at-large public’s intent is vague, at best, and the accused infringer cannot plausibly be said to have had any time-of-formation intent concerning the patent.

On the other hand, the analogy with statutes also has superficial appeal because patents are government enactments that purport to regulate the conduct of the public, and in this respect have a public law character. This analogy, too, breaks down. First, unlike statutory enactment, which occurs (at least formally) in public view, patent prosecution is an *ex parte* process that takes place in a confidential process of negotiation between the inventor’s representatives and a PTO examiner.¹¹⁰ Second, once a statute has been interpreted by the courts, that interpretive ruling is generally applicable as precedent in future cases, regardless of the identity of parties in those future cases;¹¹¹ by contrast, patent claim construction is generally treated as

of new, useful, and nonobvious advances in technology and design in return for the exclusive right to practice the invention for a period of years.”).

¹⁰⁶ 35 U.S.C. § 154(a) (2012).

¹⁰⁷ *Bonito Boats, Inc.*, 489 U.S. at 146.

¹⁰⁸ See Orin S. Kerr, *Rethinking Patent Law in the Administrative State*, 42 WM. & MARY L. REV. 127, 132–33 (2000); Willaim T. Kryger, *The Doctrine of Equivalents Into the Year 2000: The Line Is Becoming Brighter for Some but Remains Dim for Others*, 3 MARQ. INTELL. PROP. L. REV. 203, 217–18 (1999). But see Shubha Ghosh, *Patents and the Regulatory State: Rethinking the Patent Bargain Metaphor After Eldred*, 19 BERKELEY TECH. L.J. 1315, 1338–39 (2004).

¹⁰⁹ See Ghosh, *supra* note 108, at 1341.

¹¹⁰ *E.g.*, Lance Leonard Barry, *Precedent for Ex Parte Patent Prosecution*, 78 J. PAT. & TRADEMARK OFF. SOC’Y 841, 841 n.2 (1996).

¹¹¹ See 1 JOSEPH STORY, COMMENTARIES ON THE CONSTITUTION OF THE UNITED STATES § 377 (F.B. Rothman 1991) (1833) (“Judicial decisions . . . are considered, as establishing the true construction of the laws, which are brought into the controversy before it. The case is not alone

being subject to the rules of *res judicata* and collateral estoppel, requiring some identity between the parties in successive litigation.¹¹² Additionally, contrary to the spirit of public law enactments, patents confer rights on specific private parties.¹¹³ Moreover, the public notice rationale that is often cited as a reason for textualist interpretation of both statutes and patents is, if anything, *less* applicable to patents than to statutes. First, as Lemley argues, for economically rational reasons, many patents are incompletely vetted during prosecution before the PTO.¹¹⁴ Public notice based on patent issuance is therefore relatively incomplete and/or unreliable. Second, as argued below,¹¹⁵ patents simultaneously employ multiple linguistic registers, not all of which are readily accessible to the public. Without knowledge of all of these linguistic registers, the public's ability to be placed on notice via patent issuance is relatively limited.

Finally, there is the comparison between patents (i.e., of the 35 U.S.C. variety) and land patents. In general, the issuance of a land patent is an act of transferring public lands from the sovereign to a private person.¹¹⁶ Analogously, the PTO's issuance of a patent is an act of transferring certain rights from the public domain to a private party. Indeed, the two concepts both claim common origins in the English common law.¹¹⁷ However, the U.S. Constitution provides separate bases for the two

considered as decided and settled; but the principles of the decision are held, as precedents and authority, to bind future cases of the same nature.”); *United States v. Home Concrete & Supply, LLC*, 132 S. Ct. 1836, 1844 (2012) (stating that principles of *stare decisis* require courts to follow previous statutory interpretations).

¹¹² *Schnell v. Peter Eckrich & Sons, Inc.*, 365 U.S. 260, 262 n.4 (1961) (precluding re-litigation of issues based on *res judicata* where the manufacturer of an infringing device had already openly controlled an infringement defense against the customer's lawsuit); *Hart Steel Co. v. R.R. Supply Co.*, 244 U.S. 294, 297–98 (1917) (“The doctrine of *res judicata* is fully applicable to cases of patent infringement . . .”); *Blonder-Tongue Labs., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 329–30 (1971) (applying the doctrine of collateral estoppel to a patent case); *Texas Instruments, Inc. v. Linear Techs. Corp.*, 182 F. Supp. 2d 580, 586 (E.D. Tex. 2002) (noting that independent defendants are not bound by prior claim construction and “should have the opportunity to brief and argue the issue of claim construction”); *Graco Children's Prods., Inc. v. Regalo Int'l*, 77 F. Supp. 2d 660, 664–65 (E.D. Pa. 1999) (finding that the plaintiff was not bound by a prior claim construction because the case settled, and thus, the plaintiff had no opportunity to appeal the first court's claim construction).

¹¹³ While there is some support for the concept of “private bills” enacted by Congress, *Note, Private Bills in Congress*, 79 HARV. L. REV. 1684 (1966), that mechanism is increasingly little-used and has generally fallen into disfavor. Jeffrey S. Hill & Kenneth C. Williams, *The Decline of Private Bills: Resource Allocation, Credit Claiming, and the Decision to Delegate*, 37 AM. J. POL. SCI. 1008, 1015 (1993); Matthew Mantel, *Private Bills and Private Laws*, 99 LAW LIBR. J. 87 (2007).

¹¹⁴ See Burk & Lemley, *supra* note 17, at 1781–82.

¹¹⁵ *Infra* notes 150–168 and accompanying text.

¹¹⁶ See *United States v. Stone*, 69 U.S. 525, 529–30 (1864); *United States v. Creek Nation*, 295 U.S. 103, 111 (1935) (“[Land patents are] the most accredited type of conveyance known to our law.”).

¹¹⁷ See *Martin v. Waddell's Lessee*, 41 U.S. 367, 367, 381 (1842) (noting that, under English law, disposition of public land was by a grant from the Crown); *In re Bilski*, 545 F.3d 943, 967 (Fed. Cir. 2008) (citing Edward C. Walterscheid, *The Early Evolution of the United States Patent Law: Antecedents (Part 1)*, 76 J. PAT. & TRADEMARK OFF. SOC'Y 697, 698 (1994)) (explaining that the 1790 Patent Act in the U.S. was largely based on and incorporated features of the English system).

concepts.¹¹⁸ More specifically, within the general subject of land patents, it is tempting to draw a more pointed analogy to their use in connection with eighteenth and nineteenth century U.S. policies for westward expansion and settlement of territories. There is palpable appeal to comparing the way in which a patent on an invention rewards the grasping of something previously inchoate from the ether to the way a nineteenth century U.S. land patent rewards the settlement and cultivation of previously “wild” and uncharted lands. Unfortunately, there is a paucity of theory-rich scholarship on the interpretation of land patents.¹¹⁹

D. Summary

This effort to more closely analyze the comparisons between patents and other kinds of law (contracts, statutes, land patents) is ultimately unsatisfying insofar as it is difficult or impossible to tap into an existing body of doctrine and theory to provide ready-made guidance on how to interpret patents as a form of legal interpretation. At the same time, a closer analysis of those comparisons has helped to identify particular characteristics of patent law—both similarities and differences to other forms of legal interpretation—that affect our construction of a theory of patent claim construction as a form of legal interpretation.

III. APPLYING THE THEORY OF LEGAL INTERPRETATION TO PATENT CLAIM CONSTRUCTION

Two theoretical aspects of legal interpretation can be applied to patent claim construction. First, the concepts of core and peripheral meaning, as articulated in H.L.A. Hart’s *The Concept of Law*, have interesting analogues in patent claim

¹¹⁸ Compare U.S. CONST. art. I, § 8, cl. 8 (giving Congress the power to grant patents), *with* U.S. CONST. art. IV, § 3, cl. 2 (giving Congress the power to “dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States”).

¹¹⁹ However, the familiar “metes and bounds” analogy to patent claims derives directly from real property conveyances. Hubbard, *supra* note 94, at 329.

Courts frequently compare patent scope to the “metes and bounds” of real property, suggesting that the former is or should be as clear as the latter. The metes and bounds of real property, however, describe boundaries in the current, observable world and therefore do not suffer from the indeterminacy of fact involved with patents. The location of these physical boundaries can usually be known as a fact, and thus does not suffer from any need for “broadening.” When combined with the relatively easily applied *ad ceolum* rule, these boundaries can be translated into three dimensions by a “rigid algorithm.” Moreover, the extent to which unknown facts can be relevant is circumscribed in a fashion entirely dissimilar to patents; real property is frequently developed substantially within the boundaries, not right along its edges. Indeed, development close to the boundaries of real property may be prohibited by law, as with mandatory set-backs. As a result, uncertainty in the location of those boundaries is relatively unlikely to be material. Patents, in contrast, lack such a bias away from boundaries. Compared to real property, patent infringement is more likely to occur in the uncertain margin beyond prototypical examples.

Id. at 352–53.

construction. Second, patent claim construction depends on a range of different linguistic competencies, or linguistic registers, which are combined together in patents, making the task of patent claim construction complex and daunting in ways that are not necessarily present in other fields of legal interpretation.

A. A Thought Experiment

To frame these two theoretical analyses, I start with a thought experiment. Let us construct a parallel statute, patent and contract, to see if the differences and similarities among them shed light on theoretical issues of interpretation.

1. The Statute

Consider Hart's famous example of an ordinance that states, "[n]o vehicles in the park."¹²⁰ The linguistic meaning of the term "vehicle" in this example is not entirely clear. However, based on the self-evident *purpose* of this ordinance:

- The core meaning is that no cars or trucks or 4x4s are allowed in the park.
- The penumbral meanings may (or may not) include baby strollers, bicycles, skateboards, decommissioned military vehicles as monuments, lawnmowers, and the like.
- The judge can be somewhat expansive about the scope and meaning of the statute because of the public-conscious purpose of the statute.¹²¹

2. The Patent

Let us next construct a parallel patent claim: "A device for excluding vehicles from the park, comprising a series of posts spaced at a distance of approximately three feet, spanning each entrance to the park." Here, we see some differences. *Markman* requires us to be more literal or textualist in our construction. But is that literalism necessarily narrower than the statute in terms of the public conduct that is regulated? Consider three issues:

- As used in this patent claim, "vehicles" may not include narrow things like bicycles, which can fit between the posts.
- What about posts that are six inches tall? Cars can drive right over them.
- If a series of identical posts is placed in front of a private shopping mall entrance, does it infringe the claim? That depends on how we interpret the "preamble" to the claim ("A device for excluding vehicles from the park . . .")—does its statement of purpose provide a limitation on the scope of the claim?

¹²⁰ H.L.A. HART, *THE CONCEPT OF LAW* 122–27 (Clarendon 1961).

¹²¹ See *infra* note 124.

3. *The Contract*

Third, consider a parallel contractual provision. We will need to have a bargained-for exchange between two parties, so perhaps something like “X shall refrain from taking vehicles in the park, and in exchange . . . [Y shall compensate X]” or perhaps “in exchange for annual compensation of \$___, X shall prevent the public from taking vehicles into the park.” Alternatively, taking an example from “clickwrap” agreements and other terms-of-service type agreements, there is a sign posted at the entrance to the park saying, “X provides use of his property as a park open to the public, and entrants agree as a condition of such use they will not take vehicles into the park.” The ambiguities that arise include some of the same ones as found in the statute example. But there are also other uncertainties arising out of the broader context—for example, what enforcement mechanism might X use to prevent the public from taking vehicles into the park? For the first two sample contract provisions (but not for the posted terms-of-service sign), both the rights and duties belong to the parties, who participated in drafting the agreement. This impacts the way we interpret the contract. We resolve these ambiguities primarily by reference to the contractual language, either its “plain meaning” or as the parties understood it.¹²² For this, we may also use extrinsic evidence to ascertain the parties’ intent or understanding.¹²³ And we may also use bodies of legal doctrine that address certain standard interpretations of certain standardized contracts, like the Uniform Commercial Code.

B. Penumbras of Meaning

In *The Concept of Law*,¹²⁴ H.L.A. Hart famously discussed the interpretive challenges associated with core meanings surrounded by penumbras of uncertainty. In his example of the “no vehicles in the park” statute, the core meaning was that people should not take cars or motorcycles into the park. But what about skateboards, strollers, decommissioned tanks to be used as memorial sculpture, or—to go to the extremes of dictionary meaning of “vehicle”—the syrup used to deliver certain kinds of medicine? Hart’s idea was that, if particular facts fall within the core meaning of the legal language, it is an easy case¹²⁵ and that surrounding this core meaning is a “penumbra” of uncertainty, where determining how to apply the law to the facts is harder and may require resort to other interpretive tools, such as reference to the law’s purpose or intent.¹²⁶

Current patent practice, by contrast, is based on what is sometimes called “peripheral claiming,” which is often explained by analogy to the use of metes and

¹²² See, e.g., *Pub. Bldg. Auth. v. St. Paul Fire & Marine Ins. Co.*, 80 So. 3d 171, 180 (Ala. 2010).

¹²³ See, e.g., *Gassner v. Raynor Mfg. Co.*, 948 N.E. 2d 315, 326 (Ill. App. Ct. 2011).

¹²⁴ HART, *supra* note 120, at 122–27; H.L.A. Hart, *Positivism and the Separation of Law and Morals*, 71 HARV. L. REV. 593, 606–08 (1958); see also Frederick Schauer, *A Critical Guide to Vehicles in the Park*, 83 N.Y.U. L. Rev. 1109 (2008).

¹²⁵ See Frederick Schauer, *Easy Cases*, 58 S. CAL. L. REV. 399, 427–28 (1985).

¹²⁶ Hart, *Positivism*, *supra* note 124, at 607–08.

bounds to describe the boundaries of a parcel of real property.¹²⁷ The language of a patent claim describes the boundary of the property right. If an allegedly infringing product falls barely within that boundary, it infringes.¹²⁸ If it falls barely outside that boundary, it does not literally infringe.¹²⁹ At least that is the idea. If successful, there would be no need for purpose-driven construction. The boundaries would be clear, and there would be no penumbra. But the ongoing debate about patent claim construction is itself an indication that the aspirational bright-line boundaries of peripheral claiming may not be successful.

Sometimes, this method of claiming—or rather, the strictly peripheral, textualist approach to construing patent claims—has surprising (or even unpopular) results, when an accused product that is clearly different from what the inventor-patentee invented nonetheless falls within the “boundaries” of the patent’s peripheral claim language.¹³⁰ To extend the analogy to real property, it would be like a hiker accused of trespassing because he has wandered onto an unused corner of a rancher’s homestead acreage.¹³¹ This is suggestive that an interpretive strategy other than strict textualism may yield more satisfactory results in these “non-core” cases.

But before fully embracing alternative approaches, consider that, notwithstanding the bright-line boundaries of peripheral claiming, penumbra-type issues already arise in claim construction in a number of ways. Of course, just as in H.L.A. Hart’s example of “no vehicles in the park,” individual words have ranges of permissible meanings, some of which are “core” and some of which are “penumbral.”¹³² Additionally, patent claims often use hedge-words, like “substantially” or “about” or “normally,” to indicate a core concept that is surrounded by a penumbra of acceptable deviations. Beyond these obvious semantic examples of core and penumbral meaning, patent law uses the concepts of core and penumbra in other ways to soften the harsh strictures of pure textualism.

¹²⁷ Hubbard, *supra* note 94, at 352.

¹²⁸ *Id.* at 352–53.

¹²⁹ *Id.*

¹³⁰ See Burk & Lemley, *supra* note 17, at 1788 n.169. The authors note several examples in which attempts have been made to assert ambiguous claims cover later-developed technologies distinct from what was originally invented.

Acacia claims to have invented video on demand, *In re Acacia Media Techs. Corp.*, No. 05-1114, 2005 U.S. Dist. LEXIS 37009 (N.D. Ca. Jul. 19, 2005), Caritas to have invented VoIP, *Caritas Techs., Inc. v. Comcast Corp.*, No. 05-0339, 2006 U.S. Dist. LEXIS 98006 (E.D. Tex. Oct. 18, 2006), Rembrandt to have invented digital television, *Harris Corp. v. Rembrandt Techs.*, No. 07-0796, 2007 U.S. Dist. LEXIS 69680 (M.D. Fla., Sept. 20, 2007), Freeny to have invented multimedia, *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323 (Fed. Cir. 2001), and BT to have invented global e-commerce, *British Telecomm. PLC v. Prodigy Communs. Corp.*, 189 F. Supp. 2d 101 (2002)

Id.

¹³¹ Adam Mossoff, *The Trespass Fallacy in Patent Law* (George Mason Law & Econ. Research Paper No. 12-54), available at <http://ssrn.com/abstract=2126595>.

¹³² See Hart, *Positivism*, *supra* note 124, at 607–15.

1. Doctrine of Equivalents

First, the law of patent infringement in the U.S. includes a “doctrine of equivalents.” Under the doctrine of equivalents, a product accused of infringement that falls just outside the peripheral boundary may nonetheless be found to infringe if the accused product “performs substantially the same function in substantially the same way to obtain the same result[,]” which is called the function-way-result test, or if the differences between the accused product and the asserted claim are “insubstantial.”¹³³ Thus, even staying for the moment with the model of a single, peripheral, patent claim, there is a little bit of room for penumbral meaning.

In particular, the function-way-result test is directed at a purposive construction of the claimed invention, providing an opportunity for accused instrumentalities that are directed to the same purpose as the claimed invention to be deemed to infringe, even if a textualist approach would result in a finding of noninfringement. Of course, the doctrine of equivalents has limits. If an applicant has disclaimed certain subject matter during prosecution of the patent, the doctrine of prosecution history estoppel precludes the patentee from regaining, as an equivalent, what was disclaimed during prosecution.¹³⁴ This is based on a determination that it would not be fair to permit the patentee to assert dominion over subject matter that the patentee gave away in order to secure issuance of the rest of the patent’s coverage.¹³⁵

2. Dependent and Independent Claims

Second, patents generally include multiple claims.¹³⁶ It is rare for a patent to include just a single claim.¹³⁷ Rather there may be several claims—even dozens of claims—each of which represents a separate property right.¹³⁸ Some claims are written as standalone “independent” claims, while others are written as “dependent” claims that add some additional detail or “limitation” to that which is claimed in the independent claim.¹³⁹ To use a simple example:

- **Independent claim:** 1. A substantially spherical ball made of rubber.
- **Dependent claim:** 2. The ball of claim 1, wherein said ball is red.
- **Dependent claim:** 3. The ball of claim 1, wherein said ball is blue.

Moreover, it is possible for a dependent claim to depend from another dependent claim, which in turn depends from an independent claim.¹⁴⁰ Because dependent claims have more limitations, they are narrower (making it harder to prove they are infringed). It is, therefore, possible for an accused product to fall outside the boundaries of the dependent claims, yet still fall within the boundaries of the independent claim. To use the example above, consider an orange rubber ball.

¹³³ See *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608–09 (1950).

¹³⁴ *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 727 (2002).

¹³⁵ *Graver Tank*, 339 U.S. at 615 (Black, J., dissenting).

¹³⁶ 19 CHISUM, *supra* note 16, § 19.02[1][c][ii].

¹³⁷ *Id.*

¹³⁸ 3 CHISUM, *supra* note 16, § 801.

¹³⁹ MPEP, *supra* note 13, § 608.01(i).

¹⁴⁰ *Id.*

Orange is neither blue nor red, so neither of the dependent claims is infringed. But the independent claim 1 does not include a color restriction, so the orange rubber ball could still infringe claim 1. And a patent may include multiple independent claims, each of which describes the invention from a different perspective, or in a slightly different manner.

The totality of all claims in a patent could be considered a representation of core and penumbral meaning. The core meaning is (or core meanings are) represented by the narrowest dependent claims, and the penumbra is represented by the progression, in stair-step fashion, of progressively broader claim coverage, to the broadest independent claim. In practice, this can result in stronger patent protection for the core claims of the invention, even if the broader peripheral claims are found invalid (for example, because they cover the same subject matter as other, earlier disclosures of what was known in the field, which is called “prior art”).¹⁴¹

3. *Burk and Lemley’s Proposal to Adopt “Central Claiming”*

At least two scholars have advocated changing the system of patent claiming to improve the perceived fairness of the system. Professors Burk and Lemley have argued for a return to “central claiming.”¹⁴² They argue that patents should describe the particular embodiments invented by the inventor, and leave it to the courts to determine how much of the periphery should legitimately be deemed to infringe upon the concepts embodied in that central claim.¹⁴³ As proposed by Burk and Lemley, this approach would remedy the perceived unfairness that occurs when a patent litigation defendant is found to have infringed the literal words of the claim even though the accused instrumentality is palpably different from the thing that the patentee invented.¹⁴⁴

The Burk/Lemley proposal does have a historical antecedent. In the Nineteenth Century, before the rise of patent claims, a patent’s description of the invention was basically similar to Burk and Lemley’s proposed idea of central claiming.¹⁴⁵

4. *Concluding Thoughts—Core and Penumbra*

Considered together, the concepts of peripheral claiming and the doctrine of equivalents suggest that, even without Lemley’s idea of “central claiming,” there may be parallels that can be drawn to Hart’s discussion of core and penumbral meaning. For starters, there can be core and penumbral meanings of particular words in the

¹⁴¹ 35 U.S.C. §§ 102, 103 (2012).

¹⁴² Burk & Lemley, *supra* note 17, at 1766; *see also* Burk & Lemley, *Quantum Patent Mechanics*, 9 LEWIS & CLARK L. REV. 29, 52–53 (2005).

¹⁴³ Burk & Lemley, *supra* note 17, at 1764–65.

¹⁴⁴ *Id.* at 1788 (explaining an advantage of central claiming to be that “[a]ccused infringers are protected from strategic claim drafting that expands the patent to cover things well beyond the contemplation of the inventor.”).

¹⁴⁵ *Id.* at 1776–77.

claims.¹⁴⁶ Additionally, in each patent, there is often some core invention, surrounded by a penumbra of literal meaning that is within the peripheral claim scope, which in turn is surrounded by a penumbra of equivalents that are outside the literal claim scope.¹⁴⁷ Moreover, each pair of independent and dependent claims represents a core and a penumbra, with the dependent claim representing the narrower, more precisely defined core and the independent claim representing the broader penumbra.¹⁴⁸ This image of a core and penumbra is further complicated by the multiplicity of independent and dependent claims that may be included in a single patent.

Beyond an extension of Hart’s terminology, though, we should consider issues of fundamental fairness and the ways in which these doctrines of interpretation impact the fairness of the legal scheme. Is it “fair” to the inventor to limit patent scope to the literal reach of the claims, if there are things just outside the literal meaning that clearly “do the same thing” as the invention? Relatedly, what if the accused technology was developed *after* the date of the patent? Would it be fair to hold that this “after-arising” technology¹⁴⁹ is infringing if it falls within the literal scope of the claim language (even if it did not exist at the time of the invention)? Or, conversely, would it be fair to stretch the meaning of the claim language to reach this after-arising technology if it has *replaced* the technology described in the claim?¹⁵⁰ For example, there are a number of older computer networking patents that mention using telephones and dial-up modems to connect to other computers.¹⁵¹ Should those claims be limited to dial-up? Or is it acceptable to expand them to include now-ubiquitous broadband Internet? Or Wi-Fi? Does it matter if this technological evolution is part of the point of novelty of the invention, or is it merely an incident of describing the whole system into which the novel invention is incorporated?

And if we are willing to extend patents beyond the strict boundaries of their literal scope, either by the doctrine of equivalents or other doctrines, is it “fair” to the public?¹⁵² What if a member of the public is inspired by the patent to make the core invention, then adds some twist that takes it outside the literal claim scope? Once we start engaging in these questions about the fundamental fairness of claim construction, particularly when issues of interpretation and application of the claim

¹⁴⁶ *Id.* at 1746–48.

¹⁴⁷ Hart, *Positivism*, *supra* note 124, at 607–15.

¹⁴⁸ *Id.*

¹⁴⁹ See Burk & Lemley, *supra* note 17, at 1788 n.169 (citing examples).

¹⁵⁰ See *SuperGuide Corp. v. DirecTV Enters.*, 358 F.3d 870, 896 (Fed. Cir. 2004) (Michel, J., concurring) (explaining the majority holding that a claim written in 1985 with the term “regularly received television signal” covered digital television signals invented later).

¹⁵¹ See, e.g., *British Telecomm’s PLC v. Prodigy Commc’ns Corp.*, 189 F. Supp. 2d 101, 105 (S.D.N.Y. 2002) (construing 70’s-era patents to describe a way for users to access data remotely over a telephone network).

¹⁵² *Phillips v. AWH Corp.*, 415 F.3d 1303, 1319 (Fed. Cir. 2005) (“[U]ndue reliance on extrinsic evidence poses the risk . . . [of] undermining the public notice function of patents.”); Burk & Lemley, *supra* note 17, at 1791–92 (explaining that claims alone provide little public notice while *Markman* hearings provide some, but only once Federal Circuit has reviewed construction is there real public notice).

extend into the penumbra, it becomes appropriate to consider other, non-linguistic factors in determining the appropriate construction.¹⁵³

C. Multiple Linguistic Registers

The process of determining meaning in patent claim construction is further complicated by the various linguistic registers that are used in patent claim language. In statutory language, there is generally a single linguistic register—that of the ordinarily competent legislator.¹⁵⁴ Professor Raz has argued that the baseline intention for statutes, shared by everyone in a legislative enacting majority, is that the statutory language, when understood in the way that such texts are ordinarily understood by competent users of legal language, become law.¹⁵⁵ Raz uses this observation to argue against the use of intentionalism to resolve issues of claim construction in hard cases.¹⁵⁶ In other words, Raz argues that there is a baseline enactor’s intention for any authoritative legal text, but it does not help answer any of the hard questions of legal interpretation.¹⁵⁷ To answer those questions, we must move beyond linguistic arguments and consider policies, purposes, and similar factors.

Patent claim construction is more complex than statutory construction because it involves the use of multiple linguistic registers. *Markman*’s seemingly simple formulation of the goal for patent claim construction, that claim terms be interpreted in the way that they would be understood by a person of ordinary skill in the art at the time of the invention,¹⁵⁸ masks at least three different linguistic registers. First, patents are written in a special subset of legal English that is iconoclastic unto itself. “Plurality” means “comprising, or consisting of more than one.”¹⁵⁹ “Comprising” and “consisting of” mean different things: Comprising refers to a selection from an open-ended or indeterminate set of alternatives,¹⁶⁰ and consisting of refers to a closed-ended, finite set of alternatives.¹⁶¹ There is a type of claim called a Jepson claim, which includes the phrase “wherein the improvement comprises” and expressly identifies the point of novelty of the invention.¹⁶² Some claims are written in a form where one or more limitations say “means for [verb]ing” These means-plus-function claims have their own set of rules.¹⁶³ There are dozens of these patent-specific items of legalese. It is fair to say that no ordinarily competent scientist without training in patent law would understand these terms in the way they are used in patent claims.

¹⁵³ See *supra* notes 125, 126, 130 and accompanying text.

¹⁵⁴ Gerald C. MacCallum, Jr., *Legislative Intent*, 75 YALE L.J. 754, 760–61 (1966).

¹⁵⁵ Joseph Raz, *Intention in Interpretation*, in THE AUTONOMY OF LAW 249, 267–68 (Robert George ed., 1996).

¹⁵⁶ *Id.* at 266.

¹⁵⁷ *Id.* at 268–271; see also CHRISTIAN E. MAMMEN, USING LEGISLATIVE HISTORY IN AMERICAN STATUTORY INTERPRETATION 107–51 (2002).

¹⁵⁸ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995).

¹⁵⁹ *Bowers v. Baystate Techs., Inc.*, 320 F.3d 1317, 1332 (Fed. Cir. 2003).

¹⁶⁰ *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501 (Fed. Cir. 1997).

¹⁶¹ *Vehicular Techs. Corp. v. Titan Wheel Int’l, Inc.*, 212 F.3d 1377, 1382–83 (Fed. Cir. 2000).

¹⁶² 37 C.F.R. § 1.75(e) (2012); MPEP, *supra* note 13, at § 2129(III).

¹⁶³ 35 U.S.C. § 112(f) (2012) (formerly known as 35 U.S.C. § 112, ¶ 6).

Second, each patent is situated within a particular technological field.¹⁶⁴ Terms like “glycosylated protein” will have meaning only to scientists with particular expertise in molecular biology.¹⁶⁵ And only a mathematician (or perhaps an electrical or computer engineer) will know what a “Fourier transform” is.¹⁶⁶ Thus, layered on top of the patent-ese, that is essentially common to all patents, is a layer of technical jargon that is specific to the particular scientific field of the invention.

Third, inventors sometimes invent words or use them, Humpty-Dumpty-like,¹⁶⁷ to have meanings that are unique.¹⁶⁸ Sometimes, this is because the inventor, like Humpty-Dumpty, just wants to take control of the meaning of existing words. Sometimes, the inventor’s invention is so novel that no words yet exist to describe it, requiring the inventor to either speak in metaphors or analogies¹⁶⁹ or to make up entirely new words.¹⁷⁰ How can such terms be interpreted when there is no socially recognized use?

The person of ordinary skill in the art (variously abbreviated as the acronyms POSITA, PHOSITA, OOSITA, or other variants), is expected to have mastered all of these linguistic registers—though the focus of the POSITA analysis is often mainly on the particular technological field.¹⁷¹ But there is no real POSITA; the POSITA is entirely hypothetical.¹⁷² Certainly, nobody in the courtroom has all of the characteristics of the POSITA. Often, the judge and the lawyers lack detailed technical knowledge. The inventor is generally *more* knowledgeable about the relevant art than the POSITA (after all, the inventor is not just able to converse in this scientific field; the inventor came up with something entirely novel in this field).¹⁷³ And it is not always self-evident what the relevant art is; in fact, the parties will often sharply dispute both the identity of the relevant field of art, as well as the level of skill in the art.

¹⁶⁴ See *Gordon v. Gutierrez*, No. 1:06cv861, 2007 U.S. Dist. LEXIS 253, at *4 (E.D. Va. Jan. 4, 2007) (providing an overview of the patent office classification system).

¹⁶⁵ See, e.g., U.S. Patent No. 5,618,698 (filed June 6, 1995).

¹⁶⁶ See, e.g., U.S. Patent No. 6,377,336 (filed Mar. 30, 1999).

¹⁶⁷ LEWIS CARROLL, *THROUGH THE LOOKING GLASS* 196 (1939) (“When *I* use a word, ‘Humpty Dumpty said in a rather scornful tone, ‘it means just what I choose it to mean—nothing more nor less.’”)

¹⁶⁸ See also LUDWIG WITTGENSTEIN, *PHILOSOPHICAL INVESTIGATIONS* § 43 (G. E. M. Anscombe trans., 2d ed. 1958) (“[T]he meaning of a word is its use in the language.”).

¹⁶⁹ E.g., U.S. Patent App. No. 20110163944, figs. 1, 4 (filed Jan. 5, 2010), available at <http://www.pat2pdf.org/patents/pat20110163944.pdf>. Apple, Inc. frequently uses metaphors to explain touch gestures in patents for their phones and tablets. For example, “Intuitive, Gesture-based Communications with Physics Metaphors,” which describes gestures that correspond to software functions, like a pouring motion that transfers files from one device to another and a vacuum motion that draws files from device to device. *Id.* ¶¶ 2–4.

¹⁷⁰ MPEP, *supra* note 13, § 2111.01(IV) (“An applicant is entitled to be his or her own lexicographer . . .”).

¹⁷¹ See 35 U.S.C. § 103(a) (2012).

¹⁷² MPEP, *supra* note 13, § 2141.03(I) (“The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention.”).

¹⁷³ Dan L. Burk, *Do Patents Have Gender?*, 19 AM. U. J. GENDER SOC. POL’Y & L. 881, 890 (2011) (“The PHOSITA is not the inventor, since an inventor is by definition someone of extraordinary skill in the art, but is someone who is entitled to the grant of a patent for having made available to humankind technology that would not be obvious to mere artisans.”).

What started out sounding like a rather reasonable, grounded inquiry, namely *how the term would have been understood by a person of skill in the art at the time of the invention*, ends up actually being a rather surreal and imaginative enterprise, namely *what a judge of general jurisdiction believes a person of ordinary skill in the art would have understood the claim language, which includes both patent-ese and made-up words as well as scientific or technical terms, to mean at the time of the invention*. In view of the multiple linguistic registers, as well as the many different fields of technology that may arise in patent law, the task of patent claim construction is a task perhaps best fit for Dworkin's hypothetical judicial super-hero, Hercules.¹⁷⁴ In view of the high rate at which the Federal Circuit reverses lower court interpretations, there are some on the patent bar who might suggest that the Federal Circuit is (or at least regards itself as) Dworkin's Hercules, in search of the "one right answer" on questions of claim construction; that is, the interpretation that provides the "best fit."¹⁷⁵

But there is empirical support that this interpretation, of the Federal Circuit as Hercules, may be misplaced. Professor Lefstin has published an article measuring the indeterminacy of patent claim construction by measuring the frequency of dissents in appellate opinions.¹⁷⁶ It can be derived from Lefstin's article that, when a judge on the Federal Circuit feels strongly enough about a claim construction issue to file a dissenting opinion, there is, in fact, a valid alternative interpretation of the claim language.¹⁷⁷ Such a suggestion takes issue with the Dworkinian premise that there is, ultimately, "one right answer." Perhaps there is not. But if there is not, then should the Federal Circuit retreat from its *de novo* review of claim construction rulings and afford more deference to trial court claim constructions?¹⁷⁸ An affirmative answer to this question could also have implications for the law/fact characterization of patents (deferential review on appeal is typically reserved only for factual issues or issues soundly committed to the trial court's discretion). Additionally or alternatively, is it possible that instead of a dichotomy of "right

¹⁷⁴ See RONALD DWORKIN, *LAW'S EMPIRE* 239 (1986).

¹⁷⁵ See ERIC J. MILLER, *INDECISIVE REASONS FOR ACTION: SOCRATES, NOT HERCULES, AS JUDICIAL IDEAL* 18 (2010).

¹⁷⁶ Jeffery A. Lefstin, *The Measure of the Doubt: Dissent, Indeterminacy, and Interpretation at the Federal Circuit*, 58 *HASTINGS L.J.* 1025, 1027 (2007).

¹⁷⁷ *Id.* at 1026–27.

¹⁷⁸ See *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1477 (Fed. Cir. 1998) (Rader, J., dissenting).

[T]he trial judge enjoys a potentially superior position to engage in claim interpretation. For the complex case where the claim language and specification do not summarily dispose of claim construction issues, the trial court has tools to acquire and evaluate evidence that this court lacks. Trial judges can spend hundreds of hours reading and rereading all kinds of source material, receiving tutorials on technology from leading scientists, formally questioning technical experts and testing their understanding against that of various experts, examining on site the operation of the principles of the claimed invention, and deliberating over the meaning of the claim language. If district judges are not satisfied with the proofs proffered by the parties, they are not bound to a prepared record but may compel additional presentations or even employ their own court-appointed expert.

Id.

construction/wrong construction,” there could be a hierarchy or continuum of “best construction/pretty good construction/impermissible construction?”

So far, this analysis has focused entirely on the textualist aspects of the Herculean project of claim construction. But Dworkin’s analysis also focuses on issues of social policy.¹⁷⁹ Should social policy issues play a role in patent claim construction? To be sure, the technologies claimed in some patents implicate profound policy issues—the patenting of human DNA (or at least, methods of extracting or measuring the DNA), drugs, the latest must-have smartphone technology. Should “patent trolls” (or “non-practicing entities” as they are less pejoratively called) be given narrower patent rights than patent owners who invented and/or practice the patent in the marketplace? Should software patents be construed more restrictively than patents on physical machines? And so on. These issues of social policy go well beyond the “patent bargain” that is embedded in the Constitution. Does the overriding “public good” embodied in the “patent bargain” override all of these other policy issues?

Historically, the courts have not been willing to open the door to substantive policy issues as part of claim construction.¹⁸⁰ But if there are multiple acceptable (even if more-good or less-good) interpretations, is it possible that these issues of social policy affect judicial decision-making at the margins? That is, might the sympathetic patentee get slightly more deference for a favorable interpretation than the unsympathetic one? If that is not happening already, is it a shift in approach that should be explicitly embraced, rather than just tacitly accepted? To do so would be to move patent claim construction away from the purely textualist-semantic approach that has dominated patent law since *Markman* and empower courts to interpret claims in a manner that is more closely aligned with public and scholarly perceptions of what patent claim scope ought to be.

D. The Absence of Intentionalism

There is another key issue in patent claim construction that is notable mainly for its absence. Unlike both contract and statutory interpretation, and like many threads of general theories of interpretation, the issue of intentionalism just does not enter the debate about patent claim construction.¹⁸¹ The world of patent claim construction is now a solidly textualist exercise. The only other approach that is even part of the dialogue is a factual/historical inquiry into what the inventor actually invented.

It makes sense that intentionalism is not part of the inquiry. Intentionalism could be aimed at either of two ends: the substantive scope of the patent (e.g., what did the speaker intend the patent to cover), or the meaning of the claim language (e.g., what did the speaker intend these words to mean)? In either case, we are faced with the problem of whose intentions should govern. Broadly speaking, there are

¹⁷⁹ See DWORKIN, *supra* note 174, at 340–47.

¹⁸⁰ See *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 384 (1996).

¹⁸¹ Ruoyu Roy Wang, *Texas Digital Systems v. Telegenix, Inc.: Toward A More Formalistic Patent Claim Construction Model*, 19 BERKELEY TECH. L.J. 153, 168 (2004).

three main candidates: the inventor, the attorney representing the inventor at the PTO, and the patent examiner.

Although much more could be said on the subject of intention concerning substantive scope of the patent, we can readily recognize that in virtually every instance, the inventor's (and her attorney's) intention will be that the patent should be as broad as possible (without rendering it invalid) or that the patent should cover that which the inventor has invented.¹⁸² Similarly, the patent examiner's intention will virtually always be that the patent should cover the subject matter to which the inventor is entitled to a patent. Moreover, because it is impermissible to take discovery from individual patent examiners about particular patents, the examiner's intentions would necessarily be a matter of reconstruction and conjecture by the court.¹⁸³

Linguistic intentions concerning the meanings of claim terms fare little better. The *Phillips* case noted that the applicant can define terms in the specification, thus expressing an intended meaning.¹⁸⁴ But we do not look to ascertain intentions beyond those that are expressed in the intrinsic record. In the context of patents, this makes sense—the patent is to be binding on the general public, who was not present at the table when the patent was prosecuted. It would be unfair to have unexpressed, private-party intentions binding on the general public. Also, with regard to the patent examiner's intentions, again, it is impermissible to take discovery about those.¹⁸⁵ Thus, particularly in the context of patent law, the absence of intentionalism seems like the right result, and that provides an interesting contrast with both contract and statutory interpretation.

CONCLUSION

There is fertile soil at the intersection of patent law and the theory of legal interpretation. Many of the issues that arise in patent claim construction cannot be easily answered by analogy to other fields of legal interpretation. But use of the analytic tools that general jurisprudence makes available can help advance our understanding of the enterprise of patent claim construction, and help to resolve some of the most vexing issues in the post-*Markman* world of claim construction. In particular, this study of jurisprudence exposes the appropriateness of using considerations of purpose, policy and fairness to determine the outer boundaries of patent claim construction, rather than strictly limiting courts to a hypothetical, reconstructive, but purely textualist approach. Such a shift would be a sea-change from the current approach to patent claim construction. At the very least, it undermines *Cybor's* rationale for *de novo* appellate review of claim constructions.

¹⁸² Christopher A. Cotropia, *Patent Claim Interpretation Methodologies and Their Claim Scope Paradigms*, 47 WM. & MARY L. REV. 49, 122–23 (2005) (“Patent law must give the patentee broad patent protection covering the ‘matrix of technological possibilities’ regarding the invention, including its commercial embodiments and potential improvements.”).

¹⁸³ *Magnivision, Inc. v. Bonneau Co.*, 115 F.3d 956, 960 (Fed. Cir. 1997).

¹⁸⁴ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (2005).

¹⁸⁵ *Magnivision, Inc.*, 115 F.3d at 960.

And it could lead to a full-on rethinking of the *Markman* approach to claim construction.