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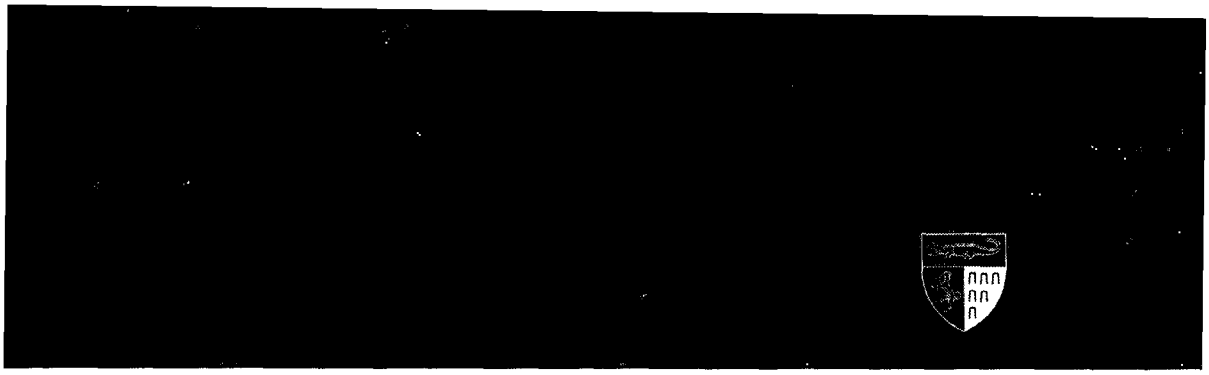
TUN-JEN CHIANG & LAWRENCE B. SOLUM

The Interpretation-Construction Distinction in Patent Law

ABSTRACT. The ambiguity of claim language is generally considered to be the most important problem in patent law today. Linguistic ambiguity is believed to cause tremendous uncertainty about patent rights. Scholars and judges have accordingly devoted enormous attention to developing better linguistic tools to help courts understand patent claims.

In this Article, we explain why this diagnosis is fundamentally wrong. Claims are not often ambiguous, and linguistic ambiguity is not a major cause of the uncertainty in patent law today. We shall explain what really causes the uncertainty in patent rights, how the erroneous diagnosis of linguistic ambiguity has led the literature off track, and what will get us back on track to solving the uncertainty problem.

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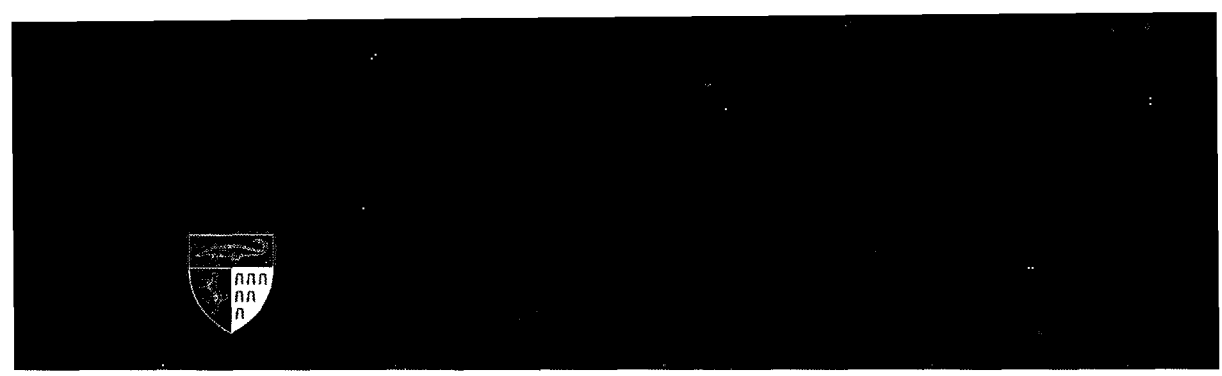
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INTRODUCTION

The uncertainty over how courts will apply patent claims in adjudicating infringement is a real and very substantial problem in patent law today. A large literature addresses this problem.[1] The common premise of this literature is that the uncertainty arises because claim language is itself uncertain,[2] and the proposals for reform accordingly focus on linguistic solutions.[3] For example, judges and scholars debate whether the best source of linguistic meaning is dictionary definitions,[4] or the context provided by the whole patent document,[5]

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1. *See, e.g.*, JAMES BESSEN & MICHAEL J. MEURER, PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK 8-11 (2008); Gretchen Ann Bender, *Uncertainty and Unpredictability in Patent Litigation: The Time Is Ripe for a Consistent Claim Construction Methodology*, 8 J. INTELL. PROP. L. 175 (2001); Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743 (2009); Peter S. Menell et al., *Patent Claim Construction: A Modern Synthesis and Structured Framework*, 25 BERKELEY TECH. L.J. 711 (2010); Kimberly A. Moore, Markman *Eight Years Later: Is Claim Construction More Predictable?*, 9 LEWIS & CLARK L. REV. 231 (2005); Craig Allen Nard, *A Theory of Claim Interpretation*, 14 HARV. J.L. & TECH. 1 (2000); David L. Schwartz, *Practice Makes Perfect? An Empirical Study of Claim Construction Reversal Rates in Patent Cases*, 107 MICH. L. REV. 223 (2008); R. Polk Wagner & Lee Petherbridge, *Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance*, 152 U. PA. L. REV. 1105, 1163-70 (2004).

2. *See, e.g.*, Autogiro Co. of Am. v. United States, 384 F.2d 391, 396 (Ct. Cl. 1967) ("Claims cannot be clear and unambiguous on their face."); BESSEN & MEURER, *supra* note 1, at 56 ("We want to highlight . . . the issuance of vague claims."); Dan L. Burk, *Dynamic Claim Interpretation*, *in* INTELLECTUAL PROPERTY AND THE COMMON LAW 107, 112 (Shyamkrishna Balganesh ed., 2013) ("Due to the inherent ambiguity of language, the boundary remains necessarily indeterminate . . . ."); Burk & Lemley, *supra* note 1, at 1745 (arguing that claim language may be "inherently indeterminate"); Peter Lee, *Substantive Claim Construction as a Patent Scope Lever*, 1 IP THEORY 100, 114 (2010) (arguing that "the limitations of language" cause uncertainty); Menell et al., *supra* note 1, at 716 ("If nothing else, the past two decades revealed the inherent difficulties of using language to define the boundaries of abstract and intangible rights."); Sean B. Seymore, *The Teaching Function of Patents*, 85 NOTRE DAME L. REV. 621, 637-38 (2010) (attributing the problem to "the inherent indeterminacy of language").

3. *See, e.g.*, AbTox, Inc. v. Exitron Corp., 122 F.3d 1019, 1023 (Fed. Cir. 1997) ("[T]he language of the claim frames and ultimately resolves all issues of claim interpretation."); Russell B. Hill & Frank P. Cote, *Ending the Federal Circuit Crapshoot: Emphasizing Plain Meaning in Patent Claim Interpretation*, 42 IDEA 1 (2002); Joseph Scott Miller & James A. Hilsenteger, *The Proven Key: Roles and Rules for Dictionaries at the Patent Office and the Courts*, 54 AM. U. L. REV. 829, 886-87 (2005); Kristen Osenga, *Linguistics and Patent Claim Construction*, 38 RUTGERS L.J. 61, 63 (2006).

4. *See, e.g.*, Tex. Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202-03 (Fed. Cir. 2002) (favoring dictionaries).

or testimony from expert witnesses.[6] A closely related debate is institutional: whether appellate judges, trial judges, or juries are best equipped to implement a particular linguistic solution and discern linguistic meaning.[7] At the pessimistic extreme, Dan Burk and Mark Lemley argue that claim language is so innately indeterminate that it should be abolished altogether.[8] Although the proposed solutions vary widely, there is wide agreement that the source of the difficulty is that claim language is vague or ambiguous.[9] We will call this the "linguistic indeterminacy thesis."

This Article challenges the widely shared premise. The uncertainty in how courts will apply claims does not characteristically arise because of uncertainty regarding linguistic meaning. There may be some occasional cases in which linguistic ambiguity (where language has more than one sense) produces underdeterminacy of legal outcomes, and more cases in which vagueness (where language has borderline cases) causes uncertainty; but we argue that uncertainty in claim application most typically arises because judges have core policy disagreements about the underlying goals of claim construction. In order to explicate and distinguish between these different sources of uncertainty, we will draw upon what has been called the "interpretation-construction distinction" in recent constitutional theory.[10]

Stated simply, modern constitutional theory draws a distinction between determining the linguistic meaning of a text ("interpretation"), and giving

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5. *See, e.g.*, Multiform Desiccants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1478 (Fed. Cir. 1998) (favoring the specification); Ben Hattenbach, *Chickens, Eggs and Other Impediments to Escalating Reliance on Dictionaries in Patent Claim Construction*, 85 J. PAT. & TRADEMARK OFF. SOC'Y 181, 189-90 (2003) (criticizing the *Telegenix* court's "process of considering dictionaries before specifications").

6. Nard, *supra* note 1, at 66, 69 (favoring expert testimony).

7. *Compare* Eastman Kodak Co. v. Goodyear Tire & Rubber Co., 114 F.3d 1547, 1555 (Fed. Cir. 1997) ("The trial court is best situated to gauge the relevance and need for additional evidence to explicate claim terms."), *with* Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc) ("[C]laim construction, as a form of document construction, is solely a question of law subject to *de novo* review." (citations omitted)).

8. Burk & Lemley, *supra* note 1, at 1784-86.

9. *See supra* notes 2-6 and accompanying text. *But see* Thomas W. Krause & Heather F. Auyang, *What Close Cases and Reversals Reveal About Claim Construction at the Federal Circuit*, 12 J. MARSHALL REV. INTELL. PROP. L. 583, 605 (2013) (arguing that disagreements arise because of policy differences among judges); Jeffrey A. Lefstin, *Claim Construction, Appeal, and the Predictability of Interpretive Regimes*, 61 U. MIAMI L. REV. 1033, 1037 (2007) (arguing that disagreements arise because of "the particular cognitive processes by which legal observers reach legal interpretations").

10. *See* Lawrence B. Solum, *The Interpretation-Construction Distinction*, 27 CONST. COMMENT. 95 (2010).

legal effect to that text ("construction").[11] To take an example, there is some uncertainty in constitutional law about the contours of the state action doctrine as applied to the First Amendment.[12] But the source of this uncertainty is not linguistic indeterminacy, and the answer to the doctrinal problem cannot be found in better evidence about linguistic practices in the late eighteenth century. The linguistic meaning of the First Amendment's state action requirement—that "Congress" is bound—is clear. The cause of the uncertainty is not that people do not know what "Congress" means as a matter of semantics, but that strictly limiting the First Amendment to congressional action—and allowing other government actors to establish religions and censor speech—would result in outcomes that seem unwise or unjust. Courts react to this problem by engaging in constitutional construction: the courts craft constitutional doctrine with a broader scope of application for the First Amendment. Uncertainty about this doctrine results when judges disagree on how much broader the scope should be in light of the underlying reasons of policy and principle. This normative dispute over legal effect is very different from a dispute about the semantic meaning of the word "Congress."

The interpretation-construction distinction does not tell us how to resolve these disputes over legal effect. Rather, the payoff of drawing the distinction is antecedent: it tells us *which* issues are problems of linguistic meaning, and which issues are problems of legal effect. This is important because the two types of problems call for different solutions. More and better linguistic information (such as more accurate definitions or data about usage) can solve problems of linguistic uncertainty and hence result in more accurate interpretations. Linguistics cannot resolve policy debates and thus cannot resolve issues of construction. The limits of linguistics are especially apparent when the linguistic meaning of a claim underdetermines the claim's legal

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11. *See* RANDY E. BARNETT, RESTORING THE LOST CONSTITUTION: THE PRESUMPTION OF LIBERTY 118-30 (2004); KEITH E. WHITTINGTON, CONSTITUTIONAL CONSTRUCTION: DIVIDED POWERS AND CONSTITUTIONAL MEANING 5-9 (1999); Lawrence B. Solum, *Originalism and Constitutional Construction*, 82 FORDHAM L. REV. 453 (2013) (discussing the interpretation-construction distinction in constitutional law). Although the interpretation-construction distinction has recently become prominent in constitutional theory, it has been used in a variety of legal contexts. *See* E. Allan Farnsworth, *"Meaning" in the Law of Contracts*, 76 YALE L.J. 939, 939-40 (1967).

12. *Compare* Marsh v. Alabama, 326 U.S. 501, 509 (1946) (holding that the First Amendment applies to a privately owned company town), *with* Lloyd Corp. v. Tanner, 407 U.S. 551, 570 (1972) (holding that the First Amendment does not apply to a privately owned shopping mall). *See generally* Frederick F. Schauer, Hudgens v. NLRB *and the Problem of State Action in First Amendment Adjudication*, 61 MINN. L. REV. 433 (1977) (discussing the lines of disagreement in this area).

effect. We shall call the space where linguistic information underdetermines legal effect the "construction zone."

The confusion between interpretation and construction—and the use of the wrong tools because of a misdiagnosis of the problem—is endemic in patent law. As mentioned above, the premise of the literature has been that the problems of claim construction stem from linguistic uncertainty. The same is true of the case law. The leading modern case on analyzing patent claims (we will use "analysis" to denote an activity that encompasses both interpretation and construction) is *Phillips v. AWH Corp.*,[13] which deals with whether a patent claim to "steel baffles" covered non-bullet-deflecting steel baffles. Reflecting the consensus that the problem with claims is their linguistic indeterminacy, the opinion features an extended discussion of the role of dictionaries and other sources in determining linguistic meaning.[14] But this was a fool's errand. Nobody in *Phillips*—none of the litigants, and none of the judges in the majority or the two dissents—disputed the linguistic meaning of "steel baffle" or that this linguistic meaning covered a non-bullet-deflecting baffle.[15] The dispute in *Phillips* was over the wisdom of giving legal effect to this linguistic meaning, because the patentee's stated purpose for the invention was a bullet-resistant reinforced wall, while the accused product did not deflect bullets.[16] Giving legal effect to the semantic meaning would thus arguably extend the monopoly scope of the patent to something that the patentee had not really invented. What *Phillips* really represents is a conflict about the underlying goal of claim construction: is it to give effect to the linguistic meaning of text, or is it to tailor patent scope to the real invention? As we will explain, these two goals are fundamentally different, and the inquiry becomes incoherent—and uncertain—when judges oscillate between them.

In this Article, we are not taking a position on the question whether allowing patentees a broader monopoly than what they had invented or foreseen is good patent policy; that is a question for another day. Our point is that the interpretation-construction distinction provides a conceptual tool that allows scholars, lawyers, and judges to identify this policy disagreement as the true cause of disputes. Because most disputes over claim "meaning" are actually normative disputes over policy issues, a solution to the claim construction

13. 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

14. *Id.* at 1312-19 (considering the claim structure, the specification, the prosecution history, dictionaries, and expert testimony).

15. *Cf. id.* at 1310 (noting the parties' stipulation to the ordinary meaning of "baffle").

16. *See id.* at 1329 (Lourie, J., concurring in part and dissenting in part) ("The abstract refers to 'bullet deflecting . . . baffles.' Only angled baffles can deflect. It then mentions 'internal baffles at angles for deflecting bullets.' That could not be clearer." (alteration in original)).

debate cannot be found in better linguistic sources. Efforts at reform should focus instead on resolving the policy disagreement among judges.

Here is a road map. Part I provides background on patent claims and describes the conventional debate about problems in claim analysis, which attributes uncertainty to textual defects. Part II then begins by laying out a general theory for analyzing legal texts, in particular distinguishing between the interpretation of linguistic meaning and the construction of legal effect. We then lay out the kinds of problems that are generally addressed through interpretation, and the kinds of problems that generally fall under the rubric of construction. We will also distinguish between two kinds of construction. At a high level, courts engage in construction by determining whether to follow the linguistic meaning of text or to follow something else in making their decisions. At a lower level, if a court chooses to follow the linguistic meaning of text, it must decide how to fill in the gaps when the linguistic meaning does not fully answer a legal dispute (i.e., the dispute falls within the construction zone). As we will explain, both types of construction involve normative policy choices, and both are qualitatively different from the type of linguistic inquiry that occurs during interpretation.

Parts III to V then apply this framework to patent law. We illustrate through exemplar cases our argument that claim analysis debates are mainly about construction: judges do not disagree about the linguistic meaning, but they do disagree about whether to construe claims according to the linguistic meaning or according to the patentee's actual inventive idea. The two standards are different, and they represent different theories of construction. The policy dispute between them is the true cause of the uncertainty in patent law today.

Part VI considers the implications of our analysis. Contrary to what scholars and courts have assumed (or professed to assume), it is simply not true that claim analysis disputes arise primarily because claim text is linguistically ambiguous. Better linguistic tools—which patent scholars and judges have felled many trees proposing and debating—will therefore not help resolve the uncertainty in claim analysis. Rather, the primary cause of uncertainty in patent rights is that judges disagree over the better theory of construction, namely, whether courts should award patent scope according to the linguistic meaning of the claim text or according to the real invention. We then explain how the interpretation-construction distinction provides a conceptual framework to evaluate proposed solutions to the problem, one in which policy proposals can be brought forward and evaluated *as* policy proposals. We argue that this is greatly superior to the conceptual strictures of the existing debate, where all proposals for reform (even those that are really policy prescriptions) are framed and evaluated as solutions to linguistic

uncertainty. By providing a conceptual tool that exposes the misguided premises of the existing debate and making clear the true causes of uncertainty in patent law, as well as by providing a better conceptual framework to evaluate proposals for reform, the interpretation-construction distinction lays the foundation for a more productive discourse about claim analysis.

I. THE LINGUISTIC INDETERMINACY THEORY OF PATENT LAW

In this Part, we describe the conventional terms of debate over claim meaning, where the problem is presented as one involving linguistic interpretation. Before describing the debate over patent claims, however, it is useful to provide a brief background on what "claims" are, and how they relate to the rest of the patent document.

A. Background on Patents

A United States Patent is a complex document, but its two most important components are the written description of the invention (commonly called the "specification") and the claims.[17] Both the specification and the claims are drafted by the patentee, and they both purport to describe the invention being patented. Though this might seem redundant at first blush, the specification and the claims in fact perform very different functions, and look quite different in practice.[18]

The specification provides a detailed technical disclosure of the invention, so that others can make and use it.[19] This requires considerable detail, so that the invention can be built from the ground up. For example, in the specification of their patent on the airplane, the Wright brothers described their pioneering glider down to the springs, ropes, cloth, and wood that it

17. Strictly speaking, the specification includes both the written description and the claims. In common parlance, however, "specification" is used to refer only to the written description component of a patent. CRAIG ALLEN NARD, THE LAW OF PATENTS 40 (2d ed. 2011). We will follow the common usage in this Article.

18. Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1561 (Fed. Cir. 1991) ("[T]he two standards, while complementary, approach a similar problem from different directions." (quoting Rengo Co. v. Molins Mach. Co., 657 F.2d 535, 551 (3d Cir. 1981))).

19. 35 U.S.C. § 112 (2006).

used.[20] These details are needed so that someone reading the patent could later (after the patent expires) build an airplane based on their example.[21]

But, obviously, it is not particularly important that an airplane use a particular type of spring. The essence of an airplane is simply that it has wings and flies. It would eviscerate patent incentives if another person could take the Wright brothers' airplane, change a few springs, and thereby escape infringement liability. In other words, it is important for patent law to encourage the Wright brothers to disclose lots of technical detail to allow later replication of the invention, but it would be unwise to confine the legal scope of the monopoly right by requiring those details to be slavishly replicated for infringement.[22]

To solve this problem, patent law developed "claims," which are one-sentence descriptions of the invention that demarcate the monopoly right. By separating claims from the specification, patent law allows different functions to be fulfilled. In the specification, the Wright brothers can describe their airplane in tremendous detail. But in defining their patent's legal scope, they are permitted to claim the essential inventive features.[23] A simplified claim to the airplane might thus read:

> My invention is a flying machine that has
> (1) wings; and,
> (2) a rudder.[24]

It is important to understand that the claim allows the patentee to cover much more than replication of the embodiment that is described in the specification. The Wright brothers' specification described a single wooden glider: it barely flew, it had no engine, and it used cloth wings. But the inventive idea being claimed in our example above—an airplane with wings

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20. *See* U.S. Patent No. 821,393 col. 2 ll. 103-06 (filed Mar. 23, 1903) (wood frame); *id.* col. 1 ll. 108-11 (cloth-covered wings); *id.* col. 3 ll. 57-60 (rope pulleys); *id.* col. 8 ll. 111-19 (springs).

21. *See* ePlus, Inc. v. Lawson Software, Inc., 700 F.3d 509, 519 (Fed. Cir. 2012) (rejecting the argument that "the specification need only disclose those aspects of the claimed invention that do not exist in the prior art").

22. Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 607 (1950) (stating that a rule requiring slavish replication would "convert the protection of the patent grant into a hollow and useless thing").

23. *See* ROBERT C. FABER, FABER ON MECHANICS OF PATENT CLAIM DRAFTING § 10:1.1 (6th ed. 2008) ("The claims should cover the inventor's concept.").

24. This is a highly simplified version of the key claim (claim 7) from the Wright brothers' patent. *See* '393 Patent cols. 11-12 ll. 62-74. The Wright brothers' claim also included a requirement that the rudder be directed in the same direction as the roll of the airplane. *Id.* cols. 11-12 ll. 69-74.

and a rudder—covers *all* airplanes, including a future jet. It is bedrock patent law that anything that is described by a claim infringes the patent, even if it otherwise looks very different from the specification embodiment.[25] Although a modern 747 looks very different from the Wright brothers' glider (the specification embodiment), it still has wings and a rudder, and thus it would infringe a patent with a claim written in the manner of our example.

In sum, the claim and the specification both describe the invention, but they serve different roles. For legal purposes, it is the claim that defines patent scope.[26]

B. The Problem of Claim Meaning

As the Section above explains, claim scope equals patent scope,[27] which makes claims very important. It is equally axiomatic that claim scope is defined by the *text* of the claim.[28] It is generally regarded as very important that patent scope be entirely independent of the policy judgment of individual judges.[29] It is the worst form of judicial activism, according to the Federal Circuit, for a judge to first decide whether an accused product ought be found to infringe and then twist claim text to reach that desired result.[30] In short, claim analysis is supposed to be a process where judges first neutrally interpret the text and then allow the infringement chips to fall where they may.

Yet despite these routine pronouncements by courts that they are rigidly adhering to claim text, it still seems that claim scope is wildly unpredictable. If one looks to the Federal Circuit, that court can apparently read the same text to

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25. ROBERT PATRICK MERGES & JOHN FITZGERALD DUFFY, PATENT LAW AND POLICY: CASES AND MATERIALS 27 (5th ed. 2011).

26. *See* Milcor Steel Co. v. George A. Fuller Co., 316 U.S. 143, 145-46 (1942) ("[I]t is these claims, not the specifications, that afford the measure of the grant to the patentee.").

27. There is a narrow exception to this rule, known as the "doctrine of equivalents," that allows a court to deem an unclaimed product to be infringing if the difference is "insubstantial." *See* Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 21 (1997); John R. Allison & Mark A. Lemley, *The (Unnoticed) Demise of the Doctrine of Equivalents*, 59 STAN. L. REV. 955, 958 (2007).

28. AbTox, Inc. v. Exitron Corp., 122 F.3d 1019, 1023 (Fed. Cir. 1997).

29. Autogiro Co. of Am. v. United States, 384 F.2d 391, 396 (Ct. Cl. 1967) ("No matter how great the temptations of fairness or policy making, courts do not rework claims. They only interpret them."); *see also* Scripps Clinic & Research Found. v. Genentech, Inc., 927 F.2d 1565, 1580 (Fed. Cir. 1991) ("[T]he construction of claims is simply a way of elaborating the normally terse claim language.").

30. SRI Int'l v. Matsushita Elec. Corp., 775 F.2d 1107, 1118 (Fed. Cir. 1985) (en banc) (stating that such a procedure makes patent protection "a matter of judicial whim").

reach almost any outcome. The court has held that the word "a" means "one or more,"[31] and it has also held that it means "only one."[32] It has held the word "plurality" to mean "more than one,"[33] and it has also held the word to mean "one."[34] It has held that using the word "normal" limits a claim to technology in common use at the time of patent filing,[35] while using the word "regular" does not.[36] The list of inconsistencies and contradictions goes on.

What observers take from these cases is that, because the judges purport to be applying the text but are coming to wildly disparate results, the text must be defective and its meaning is nearly always unclear.[37] In short, courts and commentators subscribe to the linguistic indeterminacy thesis that the indeterminacy of claim language is what causes the disparate results and the ex ante uncertainty regarding patent rights. Proceeding from this predicate diagnosis, they then debate the merits of a wide variety of linguistic tools as solutions to legal uncertainty.[38] For example, one line of case law argues that ambiguous claim text should be clarified by looking to unbiased third-party sources such as dictionaries and encyclopedias.[39] Another line of case law argues that ambiguous text should be clarified by looking to the patentee's own usage in the patent specification.[40] Craig Allen Nard argues that ambiguous text should be clarified by looking to expert testimony about how a person in

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31. Baldwin Graphic Sys., Inc. v. Siebert, Inc., 512 F.3d 1338, 1342 (Fed. Cir. 2008).

32. Harari v. Lee, 656 F.3d 1331, 1341-42 (Fed. Cir. 2011).

33. August Tech. Corp. v. Camtek, Ltd., 655 F.3d 1278, 1286 (Fed. Cir. 2011).

34. Verizon Servs. Corp. v. Vonage Holdings Corp., 503 F.3d 1295, 1308-09 (Fed. Cir. 2007) (citing Interactive Gift Express, Inc. v. Compuserve Inc., 256 F.3d 1323, 1335 (Fed. Cir. 2001)).

35. PC Connector Solutions LLC v. SmartDisk Corp., 406 F.3d 1359, 1363 (Fed. Cir. 2005).

36. SuperGuide Corp. v. DirecTV Enters., Inc., 358 F.3d 870, 878-79 (Fed. Cir. 2004).

37. *See, e.g.*, Autogiro Co. of Am. v. United States, 384 F.2d 391, 396 (Ct. Cl. 1967) ("Claims cannot be clear and unambiguous on their face."); Dan L. Burk & Mark A. Lemley, *Quantum Patent Mechanics*, 9 LEWIS & CLARK L. REV. 29, 51 (2005) (arguing that it is "folly" to assume "that the text of a patent claim, or any other text, has some readily discernible 'plain' or 'ordinary' meaning").

38. *See* Phillips v. AWH Corp., 376 F.3d 1382, 1383 (Fed. Cir. 2004) (en banc) (per curiam) (ordering rehearing en banc and directing the parties to discuss, among other things, whether "the public notice function of patent claims [is] better served by referencing primarily to technical and general purpose dictionaries and similar sources to interpret a claim term or by looking primarily to the patentee's use of the term in the specification").

39. *See, e.g.*, Tex. Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202-03 (Fed. Cir. 2002).

40. *See, e.g.*, Multiform Desiccants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1478 (Fed. Cir. 1998) ("The best source for understanding a technical term is the specification from which it arose . . . .").

the field would understand the claim terms.[41] Dan Burk and Peter Lee have each argued for a process of "dynamic" interpretation where courts would exploit the ambiguity of language to reach socially beneficial outcomes while purporting to maintain fidelity to text.[42] Oskar Liivak argues that claims must be interpreted according to the invention, which he defines as "the set of embodiments conceived and disclosed by the inventor in enough detail that they can be reduced to practice."[43] Most extremely, Dan Burk and Mark Lemley argue that claim text is so innately defective that it cannot be redeemed and that the claiming requirement should therefore be abolished.[44] Under this proposal, patent scope would instead be directly determined by courts according to what they perceive to be the patentee's invention.[45]

A closely related literature focuses on the institutional allocation of responsibility. If the problem is that claim language is unclear, then *who* is best equipped to implement a chosen linguistic cure? The Supreme Court in *Markman v. Westview Instruments, Inc.* held claim analysis to be a pure question of law,[46] implicitly allocating the task to appellate judges on the rationale that they are especially skilled in analyzing written documents.[47] Patent scholars and judges have spilled much ink advocating a wide variety of alternatives, ranging from allocating claim analysis to district judges,[48] to allocating it to

41. Nard, *supra* note 1.

42. Burk, *supra* note 2, at 118-19 (arguing that a decision-maker should "actively and openly contemplate[] and assess[] the potential outcomes from different readings of the text" while asserting that "[t]he text remains central to this approach"); Lee, *supra* note 2, at 105.

43. Oskar Liivak, *Rescuing the Invention from the Cult of the Claim*, 42 SETON HALL L. REV. 1, 5 (2012).

44. Burk & Lemley, *supra* note 1, at 1784-85.

45. *Id.* Unlike Liivak, who conceptualizes the invention as a set of tangible embodiments, Burk and Lemley conceptualize the invention in functional terms as the optimal scope of the patent. *See id.* at 1762; *see also* Christopher A. Cotropia, *Patent Claim Interpretation Methodologies and Their Claim Scope Paradigms*, 47 WM. & MARY L. REV. 49, 127-29 (2005) (arguing for courts to manipulate claim analysis methodology to achieve a socially beneficial degree of patent scope).

46. 517 U.S. 370, 391 (1996) (holding that claim analysis is to be treated as "purely legal" and "under the authority of the single appeals court").

47. *Id.* at 388-89.

48. *See, e.g.*, Amgen Inc. v. Hoechst Marion Roussel, Inc., 469 F.3d 1039, 1041 (Fed. Cir. 2006) (Michel, C.J., dissenting from denial of rehearing en banc) (arguing for deference to trial courts); Thomas Chen, Note, *Patent Claim Construction: An Appeal for* Chevron *Deference*, 94 VA. L. REV. 1165, 1186-88 (2008); *see also* J. Jonas Anderson & Peter S. Menell, *Informal Deference: An Historical, Empirical, and Normative Analysis of Patent Claim Construction*, 108 NW. U. L. REV. (forthcoming), http://ssrn.com/abstract=2150360 (manuscript at 69)

specialized trial courts,[49] to allocating it to the U.S. Patent and Trademark Office (PTO),[50] to allocating it to juries.[51] Invariably, the argument is that the alternative decision-maker would be in some way better able to understand claim language compared to appellate judges.

Although the proposed solutions (and the proposed actors to implement the solutions) differ widely, they all share one underlying premise: that the root cause of the problem is linguistic uncertainty. That is, the conflict over the proper approach to claim analysis is believed to arise only because the text itself is linguistically ambiguous or vague in the first place.[52] We challenge this premise. As we shall discuss, the cause of uncertainty in claim analysis is typically not a linguistic defect, but rather normative disagreement. In order to distinguish these two types of uncertainty more carefully, we will draw upon the "interpretation-construction distinction," a concept in legal theory that has been widely discussed outside of the patent law literature.

II. THE INTERPRETATION-CONSTRUCTION DISTINCTION

In this Part, we first provide an introduction to the interpretation-construction distinction. Our primary example will be drawn from constitutional law, where the interpretation-construction distinction has had the greatest contemporary influence. Much like the current argument in patent law, a once-common argument in constitutional law claimed that the constitutional text was frequently indeterminate. As Larry Simon put it, "[w]hile some of the provisions in the Constitution have relatively

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(arguing for "something approaching" de novo appellate review of documentary sources, but a more deferential "clearly erroneous" standard of review for factual predicates).

49. Arti K. Rai, *Specialized Trial Courts: Concentrating Expertise on Fact*, 17 BERKELEY TECH. L.J. 877 (2002).

50. John F. Duffy, *On Improving the Legal Process of Claim Interpretation: Administrative Alternatives*, 2 WASH. U. J.L. & POL'Y 109, 143-48 (2000) (arguing that courts should refer claim analysis questions to the PTO); *see also* Miller & Hilsenteger, *supra* note 3, at 886-87 (arguing that the PTO "is well suited to deploy its power over patent examination procedure to render dictionary selection far more predictable").

51. Markman v. Westview Instruments, Inc., 52 F.3d 967, 993 (Fed. Cir. 1995) (en banc) (Mayer, C.J., concurring) (arguing that claim analysis should be considered a jury question), *aff'd*, 517 U.S. 370 (1996).

52. *See, e.g.*, Burk & Lemley, *supra* note 1, at 1760 ("The process of claim construction itself presumes that the words of the claims are insufficiently precise to delineate those boundaries."); *see also* AbTox, Inc. v. Exitron Corp., 122 F.3d 1019, 1023 (Fed. Cir. 1997) ("[T]he language of the claim frames and ultimately resolves all issues of claim interpretation.").

unambiguous, specific, and noncontroversial meanings, the language of a great many is so vague, ambiguous, and open-textured that they might be understood to mean almost anything."[53] For example, how cruel and unusual is so cruel and unusual that it violates the Eighth Amendment? This then led to the belief that textualism and originalism were unworkable, and that original meaning should have little role in constitutional analysis.[54]

What the interpretation-construction distinction has exposed is a logical fallacy in the argument: the mere fact that the text does not *fully* dictate legal outcomes does not mean that it tells us *nothing*. Text can have a linguistic meaning even when legal outcomes are not fully determined: we know the linguistic meaning of "cruelty"—in the sense of it being a comprehensible concept—even when there are borderline cases of cruelty or the precise line between cruel and not is difficult to discern.

As a result of this insight, there is now a wide consensus that original meaning has an important role to play in constitutional analysis, albeit not a fully determinative role.[55] We believe that the interpretation-construction distinction can likewise inform the debate in patent law. We begin by explaining the concept itself.

A. A Simple Example

Consider the first word of the First Amendment to the United States Constitution: "Congress." In one sense, every reader of this Article should understand what this word means—it refers to the legislative organ of the federal government. But, in another sense, it is also entirely common as a figure of lawyerly speech to say that the First Amendment "means" that

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53. Larry Simon, *The Authority of the Constitution and Its Meaning: A Preface to a Theory of Constitutional Interpretation*, 58 S. CAL. L. REV. 603, 603 (1985).

54. *See, e.g.*, Robert W. Bennett, *Are We All Living Constitutionalists Now?*, *in* ROBERT W. BENNETT & LAWRENCE B. SOLUM, CONSTITUTIONAL ORIGINALISM: A DEBATE 165, 172-75 (2011); Robert W. Bennett, *Originalism and the Living American Constitution*, *in* BENNETT & SOLUM, *supra*, at 78, 85-87; Paul Brest, *The Misconceived Quest for the Original Understanding*, 60 B.U. L. REV. 204, 207-08 (1980); Erwin Chemerinsky, *The Supreme Court, 1988 Term—Foreword: The Vanishing Constitution*, 103 HARV. L. REV. 43, 90 (1989); Richard H. Fallon, Jr., *A Constructivist Coherence Theory of Constitutional Interpretation*, 100 HARV. L. REV. 1189, 1196 (1987).

55. Richard A. Primus, *When Should Original Meanings Matter?*, 107 MICH. L. REV. 165, 166 (2008) ("By far the dominant position [today] is to regard original meaning as always relevant to constitutional interpretation, albeit only as a factor to be considered alongside other factors.").

executive branch officials cannot prosecute political dissidents for their views,[56] and that district courts cannot issue injunctions against truthful speech.[57] The First Amendment means these things because the Supreme Court has told us so. At the same time, however, executive branch officials and federal courts are obviously not the legislative organ of the federal government. Because the First Amendment's semantic content is limited by the word "Congress," its linguistic meaning does not extend to violations of free speech by any government institution other than the Congress of the United States.

The contradiction between these two meanings of "Congress" causes lawyers to engage in all sorts of mental gymnastics. For example, we start to say that the word "Congress" is ambiguous, or that it has no meaning, or that the Framers must really have intended for the First Amendment to cover all branches of government.[58] Jack Balkin has argued that "Congress" is a synecdoche—a literary device in which the part can refer to the whole—primarily because a contrary interpretation would lead to a parade of horrible outcomes.[59] Clear thinking on the subject becomes impossible, as we twist the word "Congress" into pretzels.

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56. Hartman v. Moore, 547 U.S. 250, 256 (2006) ("[T]he law is settled that as a general matter the First Amendment prohibits government officials from subjecting an individual to retaliatory actions, including criminal prosecutions, for speaking out." (citing Crawford-El v. Britton, 523 U.S. 574, 592 (1998))).

57. N.Y. Times Co. v. United States, 403 U.S. 713 (1971) (holding an injunction against the publication of classified material to be impermissible).

58. *See* Mark P. Denbeaux, *The First Word of the First Amendment*, 80 NW. U. L. REV. 1156, 1156 (1986) (noting that many lawyers react to the problem by responding "that 'Congress' was an unaccountable slip of the pen by the Founding Fathers, and that no meaning could be attached to it"); *see also* Daniel J. Hemel, *Executive Action and the First Amendment's First Word*, 40 PEPP. L. REV. 601, 602 (2013) (noting that people find an argument that the First Amendment is limited to congressional action to be "frightening" (internal quotation marks omitted)).

59. JACK M. BALKIN, LIVING ORIGINALISM 204-05 (2011). If Balkin's argument is purely about linguistic meaning, it seems implausible. The use of synecdoche or similar literary devices in a legal text is an invitation to confusion and misunderstanding; for this reason, the drafters of the Constitution would likely have avoided it. Balkin adduces no direct evidence that "Congress" meant "all three branches of the national government," and we know of no such evidence. There is no other clear instance of synecdoche in the constitutional text, and the other occurrences of the word "Congress" seem clearly to refer to the institution created by the Constitution, consisting of the House and the Senate. In this Article, we do not consider alternative theories that would extend First Amendment limits to actors other than Congress. *Cf.* Hemel, *supra* note 58, at 604 (arguing that executive action abridging free speech would violate the Due Process clause). Even if there were no textualist route to the application of the freedom of speech to executive or judicial action, the extension could occur through constitutional construction. Our point here is only that one cannot reach that result through interpretation of the word "Congress."

At its core, the payoff of the interpretation-construction distinction is to allow lawyers to think clearly about this situation. Legal analysis of the word "Congress" is a two-step process. At the first step, which we call "interpretation," a legal analyst recognizes that the word "Congress" linguistically refers to the legislative organ of the federal government—this is the word's *linguistic meaning*. At the second step, which we call "construction," the analyst recognizes that the *legal scope* of the First Amendment covers all government. By conceptually distinguishing between the linguistic meaning and the legal meaning, we no longer need to twist "Congress" into pretzels.

Our point here is conceptual: We express no opinion about whether it is wise or legitimate for courts to construe "Congress" differently from its linguistic meaning. Our point is that the two types of "meaning" are different, and it is crucial to recognize this difference. Without the interpretation-construction distinction, legal analysis has a tendency to become a shouting match: one side says "Congress" means the legislative organ of the federal government by citing a dictionary;[60] the other side argues that "Congress" means all government by citing all the horrible results that would ensue from a contrary definition.[61] Neither side realizes they are talking past the other with entirely different modes of argumentation. Scholarly and judicial debate becomes unproductive and goes in circles when such cross-talk occurs.

In the Sections below, we explain each step of the two-step process.

B. Interpretation

1. What Is Interpretation?

Interpretation, as we have defined it (other labels could be used), is the process of discerning the linguistic meaning of a text using linguistic tools.[62] As a working definition, the linguistic meaning of a text is the set of ideas and concepts that are communicated by the language to a member of the intended

60. *E.g.*, Nicholas Quinn Rosenkranz, *The Subjects of the Constitution*, 62 STAN. L. REV. 1209, 1266 (2010) (stating that "[a]s a matter of grammar and logic, the President . . . cannot violate" the First Amendment).

61. *E.g.*, BALKIN, *supra* note 59, at 204. Balkin does not rely solely on the consequences of limiting the First Amendment to Congress; he also argues that this result is consistent with the purpose of the text. David Strauss also addresses the question of whether the First Amendment is limited to Congress. *See* David A. Strauss, *Common Law Constitutional Interpretation*, 63 U. CHI. L. REV. 877, 883 (1996) (arguing that "no one suggests that the First Amendment applies only to Congress").

62. For a more complete account of "interpretation," see Solum, *supra* note 10, at 100-02.

audience. This definition captures what is going on in our prior example—a member of the general public (the audience for the Constitution) would most likely understand "Congress" to semantically refer to the federal legislative body, rendering this the correct interpretation.

Although people tend to notice the activity of interpretation only when the language is difficult to understand in some way (e.g., if it is a foreign language), it is actually an activity that occurs literally all the time when reading or listening: the reader is interpreting the words of this Article right now. Most of the time, interpretation occurs so intuitively that it is not noticed, but this is because our background education makes it simple. A foreigner who has no education in English would not find this Article easy to understand, and he would require an interpreter or dictionary to discern the linguistic meaning.

An important feature of the linguistic meaning is that it is *factual.* The ideas and concepts that the intended audience will comprehend from a certain text is simply a fact about the world: the linguistic meaning is beyond the control of, and thus not dependent upon, the normative preferences of a third-party interpreter such as a judge. The linguistic meaning of "Congress" in the First Amendment is that it refers to the legislative organ of the federal government. A particular judge might very well wish that the First Amendment applied to other government bodies on policy grounds—and that judge might *construe* the First Amendment to cover all government—but such normative considerations are not part of the linguistic meaning.

The objectivity of interpretation is important because there is a classic counterargument, often associated with the Critical Legal Studies (CLS) movement,[63] that legal texts have no objective meanings—legal texts mean whatever judges say they mean.[64] Such indeterminacy arguments are common in the patent literature.[65] We think this argument is obviously wrong.[66] The

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63. *See* Lawrence B. Solum, *On the Indeterminacy Crisis: Critiquing Critical Dogma*, 54 U. CHI. L. REV. 462, 462-70 (1987).

64. Charles Evans Hughes, Speech at Elmira, New York (May 3, 1907), *in* ADDRESSES AND PAPERS OF CHARLES EVANS HUGHES 133, 139 (1908) ("We are under a Constitution, but the Constitution is what the judges say it is . . . .").

65. *See, e.g.*, Burk, *supra* note 2, at 112-18 ("Originalist theories . . . promise a determined meaning that they cannot deliver."); Burk & Lemley, *supra* note 37, at 31-32 (arguing that there may be "no such thing" as an ordinary meaning to claim text); Lee, *supra* note 2, at 114 (arguing against a view that "presumes that language is determinate"); Liivak, *supra* note 43, at 40 (arguing that "[c]laim interpretation is now a meaningless exercise" because it relies on bare text).

66. *See* Solum, *supra* note 63; *cf.* ROBERT BENSON, THE INTERPRETATION GAME: HOW JUDGES AND LAWYERS MAKE THE LAW, at xv (2008) ("The modern understanding of language and culture shows us that meaning is *not* something that texts possess. It is something that

linguistic meanings of legal texts are not radically indeterminate, because linguistic communication works. Indeed, the claim that law is indeterminate could not be made coherently if linguistic communication were impossible (because the CLS authors must themselves make the claim using language).[67] At the same time, we should acknowledge that indeterminacy arguments have an important surface appeal: familiar legal terms such as "freedom of speech" are quite open-ended in their legal scope.[68] Such open-endedness or vagueness, however, only proves that the linguistic meaning is *incomplete* in specifying legal outcomes, not that the linguistic meaning is non-existent. The essence of the interpretation-construction distinction is to place under the rubric of interpretation the issue of discerning the linguistic meaning, and then to address the remaining issues – including but not limited to filling the gap when the linguistic meaning underspecifies the legal outcome – under the rubric of construction. We make no claim that the linguistic meaning by itself can answer all the legal questions.[69]

With this understanding, in this Section we will explore problem-types in which interpretation is required and how linguistic tools can overcome these problems. To begin, we should emphasize that the existence of an interpretative problem does not prove that the text is indeterminate. The existence of an interpretative problem, such as the text being written in a foreign language, simply *calls for* interpretation to resolve the problem. It is only if interpretation fails to yield an answer that uncertainty results. Our examples thus also help us illustrate how interpretation works in various settings to prevent uncertainty from developing.

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interpreters produce."); MARK KELMAN, A GUIDE TO CRITICAL LEGAL STUDIES 45 (1987) ("While most CLS writers have undoubtedly emphasized the inherent ambiguity of language . . . the more coherent CLS position has moved *away* from the tendency . . . to focus on the limitlessness of interpretations of each verbal command.").

67. *See* Antonin Scalia, *Originalism: The Lesser Evil*, 57 U. CIN. L. REV. 849, 856 (1989).

68. *See* David A. Strauss, *Can Originalism Be Saved?*, 92 B.U. L. REV. 1161, 1165 (2012) (claiming that language is highly manipulable in many situations, outside of precise rules such as the requirement that presidents be thirty-five years old).

69. Another way of saying this is that a distinction can be drawn between total indeterminacy and partial underdeterminacy. The idea that language underdetermines applications to particular cases is a modest one: underdeterminacy occurs so long as there are borderline cases (or vagueness). The idea that language is utterly indeterminate, however, is much more radical. *See* Solum, *supra* note 63, at 473.

2. *The Problem of Apparent Ambiguity*

A problem familiar to lawyers is the problem of apparent ambiguity, where a text at first blush appears susceptible to more than one interpretation. We say "apparent" ambiguity because, properly interpreted, a particular text almost always has only one correct linguistic meaning, though that correct meaning may be difficult to discern. The process of interpretation is to resolve the apparent ambiguity and discern what the correct meaning is.

As an initial matter, it is important here to distinguish ambiguity from vagueness. Although the two words are often used interchangeably in legal conversation, they have more precise meanings in the philosophy of language. A word or phrase is *ambiguous* if it has more than one sense. For example, the word "table" by itself is ambiguous. It can either refer to a physical apparatus that is often paired with chairs, or it can refer to a spreadsheet such as one in Microsoft Excel. In contrast, a word or phrase is *vague* if it has fuzzy boundaries. For example, the word "tall" is vague, because it has borderline cases. If someone asked you, "Is Mr. Smith tall?," it would be difficult to answer the question even if you knew that Mr. Smith's height was five feet and eleven inches because the concept of tallness is fuzzy and five feet and eleven inches is a borderline case. But the word "tall" is not ambiguous, because we know that the attribute in question is Mr. Smith's height (and not, for example, his weight). To jump ahead, apparent ambiguity can (generally) be resolved with interpretation; usually, context tells us which of the two (or more) senses captures the linguistic meaning. Vagueness (or open texture) cannot be eliminated in this way and hence requires construction.

Let us begin by showing how apparent ambiguities can both arise in texts and be resolved through interpretation. An example from patent law is *Merrill v. Yeomans*.[70] The patentee in *Merrill* had invented a process for producing a new type of hydrocarbon oil. He then claimed "the above-described new manufacture of the deodorized heavy hydrocarbon oils."[71] The question in the case was whether this claim referred to the new *process* of making hydrocarbon oils (if "manufacture" meant "process of making") or to the new hydrocarbon oil *product* (if "manufacture" meant "thing produced"). This distinction mattered because the defendants were using the hydrocarbon oil product but not the manufacturing process. And because the word "manufacture" in

70. 94 U.S. 568 (1876). *Merrill* is foundational in establishing that the patent claim defines the invention. *See* MERGES & DUFFY, *supra* note 25, at 801.

71. *Merrill*, 94 U.S. at 570.

isolation can denote either a process or a product, the claim was linguistically ambiguous.

Although the claim was linguistically ambiguous, it is crucial to understand that this ambiguity could be—and, in fact, was—*resolved* using interpretive tools. The relevant tool here is to look to context, including the remainder of the text. The full claim reads:

> I claim the above-described new manufacture of the deodorized heavy hydrocarbon oils, suitable for lubricating and other purposes, free from the characteristic odors of hydrocarbon oils, and having a slight smell like fatty oil, *from hydrocarbon oils, by treating* them substantially as is hereinbefore described.[72]

Once read in context, it becomes quite clear that the word "manufacture" in the claim refers to a process and not a product. A sentence that read, "I claim the above described new manufacture of the deodorized heavy hydrocarbon oils . . . *from* [untreated] hydrocarbon oils, *by treating* them substantially as is hereinbefore described," would make no grammatical sense if "manufacture" was being used to denote a product. By considering the surrounding context and applying some ordinary rules of grammar, we can arrive at the correct linguistic meaning. The Supreme Court in *Merrill* in fact used this reasoning to arrive at the same conclusion.[73]

We take two points from this example. First, apparent ambiguities can often arise in patent claims and other legal texts. Second, however, such ambiguities can be *resolved* if we have the right contextual evidence available—and if the ambiguity is resolved with sufficient ease, it will not cause uncertainty. This second point has a corollary: if the contextual evidence is not available, then we may not be able to resolve the apparent ambiguity.

The fact that proper interpretation depends on the availability of evidence does not change its factual nature. The resolution of factual questions generally depends on the availability of evidence. For example, whether criminal defendant *X* shot victim *Y* is an objective factual question—there is clearly a right answer in theory—but whether a court will be able to discern the correct answer depends on the availability of evidence. Similarly, ambiguity can cause uncertainty if there is insufficient evidence, but the uncertainty and disagreement will disappear if we have enough evidence. Our point here is not that resolving ambiguities is always easy—the type and quantity of contextual evidence that is needed will vary depending on the circumstances, as will the

72. *Id.* (emphasis added).

73. *Id.* at 571.

feasibility and ease of collecting such evidence—but that the exercise is objective. Even difficult cases have a correct *theoretical* answer, which sufficient evidence will yield.

We should add one qualification to this: there are special situations where there is no single correct answer to an interpretative question. For example, if someone with a severe mental disorder writes something that is pure gibberish, then there is no idea that is conveyed to the audience and no linguistic meaning. Alternatively, in literary works, authors sometimes seek to convey a double entendre or double meaning to the audience, in which case there are multiple correct meanings (since both ideas are intended and conveyed). A double meaning can also occur when a legislature seeks to appeal to two conflicting constituencies at the same time, and intentionally uses ambiguous language that each side will understand as favoring itself, while "kicking the can down the road" to courts or some other institution to settle the substantive dispute.[74] In the patent context, intentional ambiguity can occur when patent applicants seek to convey a narrow meaning to the patent examiner while conveying a broader meaning to potential competitors.[75] In situations where multiple linguistic meanings are intended and conveyed, the ambiguity is real and irreducible: a court must construct a legal outcome by using something other than the linguistic meaning as a guide. All that said, however, such situations are the exception rather than the rule; in most of life, people do not routinely speak in gibberish or in double entendre.

3. *The Problem of Unfamiliar Language*

A different type of interpretative difficulty arises when the text is in an unfamiliar language. For example, modern readers of *Romeo and Juliet* are prone to think that Juliet is asking for Romeo's location in her famous line: "wherefore art thou Romeo?"[76] This is not because the word "wherefore" is ambiguous, but simply because we are not members of Shakespeare's intended audience of sixteenth-century theater-goers—who would have understood "wherefore" as meaning "why." Similarly, the linguistic meaning of a contract written in Spanish will be difficult for many American readers to understand. Before judges can debate the legal effect of text in those cases, they first need a

74. *See* Cass R. Sunstein, *Incompletely Theorized Agreements*, 108 HARV. L. REV. 1733, 1739 (1995) (noting that factions can appear to agree while glossing over substantive disagreements).

75. *See infra* Subsection IV.D.2.

76. WILLIAM SHAKESPEARE, ROMEO AND JULIET 71 (Barbara A. Mowat & Paul Werstine eds., Simon & Schuster 2011), act 2, sc. 2, l. 36.

translation of the linguistic meaning of the text.[77] In patent law, a similar problem arises when claims are written in scientific jargon.[78]

The correct linguistic meaning of a text written (or spoken) in unfamiliar languages can generally be discerned if we have available evidence, usually in the form of dictionaries and expert interpreters. We learned the meaning of "wherefore" in high school by looking the term up in a dictionary or from our English teacher. It is important to understand here, though, that dictionaries and expert interpreters are merely proxies for a deeper inquiry; what we are ultimately looking for is the understanding of the intended audience.[79] Our English teacher probably learned the meaning of "wherefore" by looking it up in a dictionary, and the dictionary is likely based on historical evidence of linguistic usage from sixteenth-century England. While dictionaries and translators provide indirect evidence of meaning, the best evidence is provided by the linguistic facts themselves—the patterns of usage that determine conventional semantic meanings.

As with the resolution of ambiguity, if the deep evidence of linguistic usage is not available, then the correct linguistic meaning likewise may be unavailable. For example, we will have considerably more difficulty understanding the linguistic meaning of the Code of Hammurabi, because our evidence of Ancient Babylonian linguistic usage is much more limited. There is still an objectively correct linguistic meaning, but in the absence of historical evidence we will not be able to reliably discern it. Once again, whether interpretation can yield the right answer depends on the availability of evidence. We will discuss how this point applies specifically to scientific jargon in Subsection V.C.1.

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77. *See, e.g.*, 1ST CIR. R. 30.0(e) (requiring translations of opinions from proceedings in Puerto Rico courts).

78. *See infra* Subsection V.C.1 (discussing the scientific jargon theory of why claim language might be ambiguous).

79. *See generally* PAUL GRICE, STUDIES IN THE WAY OF WORDS (1989). Grice formulated the idea of "speaker meaning" to refer to the meaning that the speaker intends to convey to the audience based on the audience's recognition of the speaker's communicative intention. *See* H.P. Grice, *Utterer's Meaning, Sentence-Meaning, and Word-Meaning*, 4 FOUND. LANGUAGE 225 (1968), *reprinted in* GRICE, *supra*, at 117.

C. *Construction*

1. *What Is Construction?*

Construction is the activity of determining the legal meaning and effect of a text. This legal meaning may or may not have anything to do with the linguistic meaning: as we discussed above, courts in fact construe "Congress" in the First Amendment differently from its linguistic meaning.

As an initial matter, it is important not to confuse the interpretation-construction distinction with another concept that is familiar to patent lawyers, which is the distinction between the construction of claim text and its application to the facts of a specific accused product.[80] It is hornbook patent law that a court should construe a claim before applying its construction to the accused product.[81] Thus, if a patentee claims "a table," the court will first engage in construction: it will decide, as a legal matter, what the patentee's legal monopoly covers. For example, the court may decide that the monopoly covers only "plastic apparatuses with six legs" (construction). The court will then look at the accused product to see if it actually is a plastic apparatus with six legs (application).

Our point in separating interpretation from construction is quite different: it is to point out that the mere fact that a court says a "table" must be made of plastic and have six legs for legal purposes (construction) does not prove that this is the linguistic meaning of the word "table" (interpretation). A reader can slice the concepts more finely, as the "interpretation-construction-application distinction." For our purposes, it does not matter whether application is part of the process of construction or instead constitutes a distinct step. We do not focus on the application step because (in the patent law context) it almost invariably follows from the construction.[82] After a court has determined the legal scope of a patent monopoly, it is almost always a straightforward matter of bringing the accused product into the courtroom to determine whether it infringes.[83]

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80. *See* Burk & Lemley, *supra* note 37, at 50 (using the labels of "interpretation" and "construction" to refer to the distinction between the construction of claim text and its application to the facts of a specific accused product).

81. *See, e.g.*, Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454 (Fed. Cir. 1998) (en banc).

82. *Cf.* MERGES & DUFFY, *supra* note 25, at 837 (arguing that the meaning of a legal text may not be separable from its application).

83. Wang Labs., Inc. v. Am. Online, Inc., 197 F.3d 1377, 1381 (Fed. Cir. 1999) ("[T]o decide what the claims [legally] mean is nearly always to decide the case." (quoting Markman v.

An essential difference between interpretation and construction is that the former deals with a factual question, while the latter deals with legal consequences and is irreducibly normative. It is a category mistake to say that the linguistic meaning of "Congress" *should* be "all government" because of the terrible consequences that would otherwise result, or based on some other moral or political theory of good outcomes. The linguistic meaning is factual; there is no "should" in that question. But it is a perfectly reasonable—if also contestable—argument to say that the legal scope of the word "Congress" should be construed to cover all government because there are good arguments of policy and principle for that result.

The fact that construction is thickly normative does not mean it is arbitrary. Rather, much of legal theory attempts to prescribe principles for construction to avoid arbitrariness. Utilitarian economists argue for constructions that maximize economic efficiency; deontologists argue for constructions that comport with a particular moral view; and textualists argue for constructions that adhere to the linguistic meaning of the text. All are theories of construction.

It is helpful to distinguish two different levels of normativity in the construction of legal texts. A particular act of construction might involve what we can call "first-order normativity"—where considerations of policy and principle are brought directly to bear on the construction of a particular legal text, such as by asking what the best construction of "Congress" would be to serve the policy purposes of the First Amendment. We can distinguish this sort of normativity from the use of normative considerations to justify a general method or theory of construction. For example, we might justify textualism (plain meaning statutory interpretation or originalism) on normative grounds, but then adopt a principle of strict construction that minimizes the role of first-order normativity. We can call this second role for normativity (at the level of theory or method), "second-order normativity."

What emerges from the distinction between the two levels of normativity is that there are two somewhat different kinds of construction. The first kind occurs when the text is vague and the dispute falls within the construction zone. In this situation, virtually no one contests that courts may legitimately use non-linguistic considerations to fill the gap—there is no other choice.[84] The

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Westview Instruments, Inc., 52 F.3d 967, 989 (Fed. Cir. 1995) (en banc) (Mayer, J., concurring))).

84. Some authors do, however, contest whether such interpretative gaps ever occur. *See* John O. McGinnis & Michael B. Rappaport, *Original Methods Originalism: A New Theory of Interpretation and the Case Against Construction*, 103 NW. U. L. REV. 751 (2009). In the constitutional context, some theorists argue that linguistic uncertainty requires judicial

second kind occurs when a court adopts an anti-textualist second-order theory of construction, which then has the effect of overriding even perfectly clear text in at least some cases.[85] We explore these two distinct kinds of construction below.

2. *Choosing a Second-Order Theory of Construction*

Much of the resistance to the interpretation-construction distinction, we suspect, is driven by a belief that it inherently favors textualism and disfavors anti-textualist theories of construction. We emphasize that this is not the case. The interpretation-construction distinction identifies whether the linguistic meaning is being followed in a judicial decision or legal argument, but it says nothing about whether the linguistic meaning *should* be followed. The distinction itself merely identifies this as a question to be asked.

We admit, of course, that asking the question has a political effect: there is a strong intuition within our legal and political culture that text should be followed if it is clear.[86] When a legal text produces an outcome that is perceived as unwise or unjust, it is much easier for a judge or advocate to avoid the outcome by characterizing the text as "unclear" (and then "interpreting" the text in a congenial manner) than by openly arguing that the text should be overridden.[87] Exposing the true nature of the anti-textualist argument

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deference to the actions of the political branches. *See* Gary Lawson, *Dead Document Walking*, 92 B.U. L. REV. 1225, 1234 (2012); Michael Stokes Paulsen, *Does the Constitution Prescribe Rules for Its Own Interpretation?*, 103 NW. U. L. REV. 857, 881-82 (2009); *see also* Solum, *supra* note 11, at 511-16 (discussing the views of both Lawson and Paulsen).

85. The debate between originalists and living constitutionalists can be seen as a dispute about this kind of constitutional construction. Originalists affirm the view that the original meaning of the constitutional text should constrain decisions, limiting the judicial role to gap-filling. Some living constitutionalists believe that other factors can authorize an override of the linguistic meaning of the constitutional text. *See* Lawrence B. Solum, *Faith and Fidelity: Originalism and the Possibility of Constitutional Redemption*, 91 TEX. L. REV. 147, 166-67 (2012) (reviewing JACK M. BALKIN, CONSTITUTIONAL REDEMPTION: POLITICAL FAITH IN AN UNJUST WORLD (2011) and JACK M. BALKIN, LIVING ORIGINALISM (2011)).

86. *See, e.g.*, James E. Ryan, *Laying Claim to the Constitution: The Promise of New Textualism*, 97 VA. L. REV. 1523, 1526 (2011) ("At some level . . . everyone is and always has been a textualist.").

87. For example, an advocate is more likely to convince a court to apply the First Amendment to the President by arguing that the word "Congress" is unclear (and should be "interpreted" to cover the President) than by overtly arguing that the constitutional text should be overridden by a judicial decision.

therefore makes it less likely that courts will accept it.[88] But this effect is a function of our legal and political culture; it is not intrinsic to the interpretation-construction distinction itself. All the interpretation-construction distinction does is identify the real issue at stake while remaining neutral as to its resolution: it demands that textualists state a normative justification for following linguistic meaning just as much as it demands that anti-textualists state one for refusing to do so.

The fact that the interpretation-construction distinction does not inherently favor any particular theory of construction, but merely exposes the question as one to be asked, can be seen more clearly by looking at contexts in which the normative justification for following text is less obvious than in constitutional law (where the obvious justification is democratic legitimacy). Consider the situation of a contract of adhesion: while the general normative justification for following contract text is that the text has been consented to by both parties, for boilerplate contracts—which consumers almost never read—such consent is arguably lacking.[89] Because the normative justification for enforcing the text of boilerplate contracts is weaker than for fully dickered contracts, there is enormous controversy over whether courts should enforce adhesion contracts according to their text.[90] The contribution of the interpretation-construction distinction here is that it allows us to see the underlying mechanics of the debate: properly understood, the argument against enforcing boilerplate contracts is *not* that the text is linguistically unclear (indeed, they are usually drafted to be extremely clear), but that following the text is normatively unjustified. And, although some contract scholars are upfront about their real argument,[91] the judicial rhetoric is often more clouded: formal doctrine usually states that contracts of adhesion must be enforced as written unless the text is ambiguous,[92] which then leads many

88. *See* Solum, *supra* note 11, at 478 ("[L]egal advocates might have a practical reason for conflating meaning and effect and hence for resisting the interpretation-construction distinction. If you were arguing for a result that is inconsistent with the meaning (communicative content) of the text, it would be convenient if your theory of 'interpretation' did not require you to confront that meaning directly.").

89. *See* MARGARET JANE RADIN, BOILERPLATE: THE FINE PRINT, VANISHING RIGHTS, AND THE RULE OF LAW 21-24, 31-32 (2013).

90. For a collection of essays presenting a variety of viewpoints, see generally BOILERPLATE: THE FOUNDATION OF MARKET CONTRACTS (Omri Ben-Shahar ed., 2007).

91. *See, e.g.*, RADIN, *supra* note 89, at 19-32; Todd D. Rakoff, *Contracts of Adhesion: An Essay in Reconstruction*, 96 HARV. L. REV. 1173 (1983).

92. *See, e.g.*, Breed v. Ins. Co. of N. Am., 385 N.E.2d 1280, 1282-83 (N.Y. 1978).

judges and advocates to find "ambiguities" that are not really linguistic ambiguities at all.[93]

In patent law, we think the normative case for overriding claim language—or at least doing so in ways that are *unfavorable* to the patentee—is quite obvious once one thinks about it. Patent claims are drafted by the patentee,[94] which means that they are likely to be written in self-serving ways that aggrandize patentee rights at the expense of the public.[95] There is no obvious normative reason why courts should defer to self-serving claim language. But virtually no one in the existing literature has explicitly made this normative argument for ignoring patentee-written claim language, at least not in these terms. Although there are isolated passages in the literature that point to the fact that patent claims are drafted by patentees, the problem is almost always still framed in terms of saying that patentees will draft claim language in an *unclear* manner.[96] Critics of patentee-written claims generally do not argue that patentees will draft claim language in a clear but *self-servingly broad* manner, which is what we think is the real objection.[97]

In sum, nothing about the interpretation-construction distinction requires that the linguistic meaning be followed simply because it is there. What the

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93. This was carried to the extreme by Chief Justice Traynor in *Pacific Gas & Electric Co. v. G.W. Thomas Drayage & Rigging Co.*, 442 P.2d 641, 644-45 (Cal. 1968), where he argued that all text is inherently ambiguous. For the parallel of this move in patent law, see *infra* Subsection V.C.3 (discussing Autogiro Co. of Am. v. United States, 384 F.2d 391 (Ct. Cl. 1967)).

94. 35 U.S.C. § 112 (2006).

95. Broad claim language is not inevitably favorable to the patentee, in that it also increases the likelihood of the claim being invalidated. *See* Giles S. Rich, *The Proposed Patent Legislation: Some Comments*, 35 GEO. WASH. L. REV. 641, 644 (1967). But, because courts have a strong bias against invalidating claims, a patentee will almost always favor broader language. *See* Roger Allan Ford, *Patent Invalidity Versus Noninfringement*, 99 CORNELL L. REV. (forthcoming 2013) (noting structural barriers to invalidating claims).

96. *See, e.g.*, Retractable Techs., Inc. v. Becton, Dickinson & Co., 653 F.3d 1296, 1311 (Fed. Cir. 2011) (Plager, J., concurring) (observing that "claim drafters . . . want claims that serve as business weapons and litigation threats" but characterizing the resulting problem as one of "indefinite and ambiguous claims"); BESSEN & MEURER, *supra* note 1, at 56-57 (describing the problem as patentees having incentives to draft vague claims); Burk & Lemley, *supra* note 1, at 1762 (stating the concern that "patent drafters can deliberately introduce ambiguity"); Kristen Osenga, *Cooperative Patent Prosecution: Viewing Patents Through a Pragmatics Lens*, 85 ST. JOHN'S L. REV. 115, 166 (2011) ("More often than not, the inventor submits ambiguous or vague claims with hopes that later interpretation of the claims will provide broader coverage . . . .").

97. *See, e.g.*, BESSEN & MEURER, *supra* note 1, at 57 (expressing the concern as vague claims leading to overbroad patents); Burk, *supra* note 2, at 112 (expressing the concern as that "the intrinsic imprecision of text[] inevitably leads to a reading that is even broader than the patent drafter might originally have expected").

interpretation-construction distinction does is expose the need for a normative choice about whether the linguistic meaning should be followed, and it identifies when participants in a debate are really arguing over this question. The proper resolution of the question depends on the type of text at issue, as well as the individual circumstances and the normative commitments of the decision-maker.

3. Filling Gaps and Drawing Lines on Vagueness

Even if we adopt a textualist perspective, it is essential to concede that most legal texts will still leave some gaps that require further construction to fill. A city ordinance that says "no loud music after 10 p.m." communicates a coherent and understandable idea, but the idea is incomplete in terms of dictating legal outcomes—we do not know how loud is too loud for a violation.[98] Courts must then engage in construction by drawing a line.

Drawing lines in this way is irreducibly normative. The word "loud" by itself will not communicate whether sixty decibels is too loud or not. There are some easy cases—holding a rock concert in a residential backyard will clearly violate the ordinance—but there will also necessarily be hard cases where normative judgment plays a role.[99] Again, such judgments are not necessarily arbitrary; courts can look to normative theories such as utilitarian economics or natural rights theory to supply a principle. Our point is that one cannot draw this line solely based on the linguistic meaning of the words: "no loud music after 10 p.m."

There is one exception to this point, which is that words that appear to be vague according to their general usage may have a more precise linguistic meaning if the author and the reader share a special understanding about semantic usage that is not apparent to an outside audience without context. For example, if you go to McDonald's and ask for a "large" cup of Coke, the server will give you a very precise size, because here the word "large" has a special semantic meaning that you and the server both share and understand. Similarly, although the word "high" is vague when used in its general sense, if your doctor tells you that you have "high blood pressure," he probably means

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98. *Cf.* TIMOTHY A.O. ENDICOTT, VAGUENESS IN LAW 57-58 (2000) (giving a similar example of vagueness).

99. *See* H.L.A. Hart, *Positivism and the Separation of Law and Morals*, 71 HARV. L. REV. 593, 607-08 (1958) (arguing that logical deduction alone cannot resolve cases on the penumbra of legal rules). *But see* RONALD DWORKIN, TAKING RIGHTS SERIOUSLY 279-90 (1977) (arguing that there is a right answer to every legal question).

that you have a blood pressure above 140/90 mmHg.[100] A patent claiming a method of treating "high blood pressure" thus would not be vague. In situations where words have precise contextualized definitions, they are not vague and do not require construction (at least, not beyond choosing to follow the linguistic meaning). At the same time, because the special understanding must occur between the author and the reader within a narrow context (the word "large" only has this special meaning inside a McDonald's store, and only for ordering soft drinks, and "high" means more than 140/90 mmHg only when referring to human blood pressure), this phenomenon virtually never applies to words in laws of general application. A special understanding that applies to everyone and across multiple contexts is no longer a special understanding.

We should also make clear that a certain category of cases do not involve vagueness, even though at first blush they might be thought to. A good example is *Martek Biosciences Corp. v. Nutrinova Inc.*,[101] which concerned whether the word "animal" in a patent claim included humans. A reader might be tempted to think of this as an instance of fuzzy boundaries—the word "animal" may or may not include humans, and humans therefore seem like a borderline case. But this is really a case of ambiguity, not vagueness. There is no problem of blurred boundaries—nobody asks how animal-*ish* a human is—but rather the problem is that there are two discrete senses to the word "animal." In the first sense, the word "animal" refers to all members of the biological kingdom of Animalia, including humans. In the second sense, the word "animal" is specifically used to counter-distinguish humans. The fact that the latter category is a subset of the former does not make this a vagueness problem. The two competing senses of "animal" are still discrete: they are not a continuum and do not have intermediate cases. This makes it a problem of ambiguity and not of vagueness. It is therefore not necessary to resort to gap-filling to determine the correct outcome. Rather, as the court held, the word "animal" in the patent included humans because the patentee expressly stated that the word "animal" was being used in its first sense of referring to all members of the kingdom of Animalia.[102]

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100. WEBSTER'S NEW WORLD MEDICAL DICTIONARY 198 (3d ed. 2008).

101. 579 F.3d 1363 (Fed. Cir. 2009).

102. *Id.* at 1380. We should note that we are not unsympathetic to the dissent's argument that, if the patentee were using the word "animal" to include humans, this would make much of the other language in the patent specification rather strange. For example, the patentee spoke of "raising an animal" by feeding it, which is not usually the type of language one would use in referring to humans. *Id.* at 1383-84 (Lourie, J., dissenting). At least, we think that the dissent's argument here is properly characterized as a linguistic argument about

D. Payoffs

At this point, some readers may ask about payoffs. Some readers might suspect that the interpretation-construction distinction is either artificial or useless.[103] That is, the crux of the distinction is that there is an identifiable concept of linguistic meaning. But we then concede that (1) the linguistic meaning does not necessarily need to be followed, and (2) it will not always answer all the questions even if it is followed. If the linguistic meaning does not necessarily matter, then who cares?

To this we have several responses. First, courts purport to care. Just about every type of legal analysis—constitutional, statutory, contract, probate, patent—takes as a matter of formal doctrine that courts are merely "interpreting" the text according to some objective meaning and are not "rewriting" the text according to their own policy preferences.[104] We think that the linguistic meaning accurately captures this idea of an objective textual meaning upon which courts purport to base their decisions.

It is helpful at this point to add a clarification. We believe that the linguistic meaning is a real feature of human communication, and we are merely trying to capture that reality with our definition; it is not an artificial construct that we have simply made up. That is, when people read the word "Congress," they have an intuitive understanding that it refers to the legislative organ of the federal government, and this intuition remains even after they read a Supreme Court case applying the First Amendment to state judicial injunctions. Ours is largely a descriptive theory of how legal analysis works underneath the hood (including sometimes being deeply buried in the subconscious), to more clearly articulate what explains our intuitive responses to the text.

Second, it is essential to isolate the linguistic meaning, and distinguish it from the legal effect, because otherwise legal analysis has a tendency to fall into

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interpretation, and it is not an unreasonable argument at that. We simply agree with the majority insofar as we think the balance of linguistic clues favors the majority's reading.

103. *See, e.g.*, MERGES & DUFFY, *supra* note 25, at 837 (suggesting that "interpretation is ultimately an act of application"); Christian E. Mammen, *Patent Claim Construction as a Form of Legal Interpretation*, 12 J. MARSHALL REV. INTELL. PROP. L. 40, 41 n.2 (2012) ("This article rejects the interpretation-construction distinction as artificial.").

104. *See, e.g.*, United States v. Oakland Cannabis Buyers' Coop., 532 U.S. 483, 494 n.7 (2001) ("Because federal courts interpret, rather than author, the federal criminal code, we are not at liberty to rewrite it."); Autogiro Co. of Am. v. United States, 384 F.2d 391, 396 (Ct. Cl. 1967) ("No matter how great the temptations of fairness or policy making, courts do not rework claims. They only interpret them."); Salvano v. Merrill Lynch, 647 N.E.2d 1298, 1302 (N.Y. 1995) ("The court's role is limited to interpretation and enforcement of the terms agreed to by the parties; it does not include the rewriting of their contract . . . .").

circular, confused, or misleading argumentation. That is, the standard doctrine in almost every area says that courts follow the "meaning" of text. If, for this purpose, the "meaning" referred to the legal effect, then we would have a circularity: the court follows the meaning of text, but the meaning is the legal outcome, which is entirely within the control of the court.[105] Under this standard, a court could do anything and it would always be right, which would make clear thinking impossible. Legal argumentation that collapses the interpretation-construction distinction is confused or misleading when considerations that bear on construction (first- or second-order normative reasons) are used to make arguments about linguistic meaning.[106] As our example regarding the First Amendment illustrates, this logically fallacious mode of argument—trying to twist the linguistic meaning of "Congress" into covering all government based on policy considerations—is common among lawyers.

Third, distinguishing interpretation from construction is important because it allows us to diagnose the causes of legal problems and uncertainties. The conflation of legal and linguistic meaning results in a situation where commentators are prone to blame language for any and all uncertainty in legal effect: if courts apply a legal text in uncertain ways, then commentators say this is because the language is not clear enough. And it quickly follows from this diagnosis that they seek cures to make the language clearer.

Once we draw a distinction between legal and linguistic meaning, it becomes clear that this is a category mistake: not all legal uncertainty can be attributed to linguistic faults. The search for a linguistic solution will therefore often end up being misguided. As we shall discuss later, the category mistake (and the wild goose chase for a linguistic solution to legal uncertainty) is endemic in patent law.[107]

Fourth, the interpretation-construction distinction offers an indispensable middle ground in debates about textualism. Without the interpretation-construction distinction, debates about textualism tend toward two dichotomous extremes: textualists argue that text alone can resolve every legal issue and policy considerations should never enter judicial decision-making;[108]

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105. *See* Larry Alexander & Frederick Schauer, *On Extrajudicial Constitutional Interpretation*, 110 HARV. L. REV. 1359, 1387 (1997) ("'[Y]our decision is what you say it is' would be tautological nonsense as an argument *to* the Supreme Court.").

106. *See infra* Subsection IV.C.2.

107. *See infra* Subsection IV.C.1.

108. *See, e.g.*, ANTONIN SCALIA & BRYAN A. GARNER, READING LAW: THE INTERPRETATION OF LEGAL TEXTS 14-16 (2012) (arguing that legal analysis can and should "begin[] and end[] with what the text says and fairly implies").

anti-textualists jump to the opposite extreme and argue that, because text alone cannot answer every legal question, it is therefore utterly worthless.[109] What the interpretation-construction distinction shows is that both sides are overstating their case and creating a false dichotomy. Contrary to what the textualists claim, the linguistic meaning of text cannot resolve every question – at some point meaning runs out. Contrary to the anti-textualists, this does not prove that text is utterly worthless – it can answer *at least some* questions. We hasten to repeat that we are not trying to advocate either textualism or anti-textualism in this Article. Our point is that one cannot begin to resolve that debate without first having a clear understanding of both the capabilities and limitations of language, and that the interpretation-construction distinction helps clarify those capabilities and limitations.

III. APPLYING THE INTERPRETATION-CONSTRUCTION DISTINCTION TO PATENT LAW

Now that we have outlined the interpretation-construction distinction in broad terms, we will apply this distinction to the specific context of patent claims. We start by sketching the basic contours of the interpretation and construction of patent claims. We then apply this framework to the canonical case of patent claim analysis, and show that the dispute arose primarily because of normative policy disagreement rather than linguistic ambiguity. In Section III.C, we then explain how the conventional framing obscures clear thinking and leads to a fruitless pursuit of incorrect solutions.

A. An Initial Outline

1. Interpreting the Linguistic Meaning of Claims

The interpretation of patent claims is the task of determining their linguistic meaning. Following our definition above, the linguistic meaning of a claim is the understanding of the text by the intended audience at the time the

109. *See, e.g.*, Pac. Gas & Elec. Co. v. G.W. Thomas Drayage & Rigging Co., 442 P.2d 641, 643-44 (Cal. 1968) (arguing against "a primitive faith in the inherent potency and inherent meaning of words" (footnote omitted)); Burk, *supra* note 2, at 116-17 (arguing that judicial reversal rates in patent claims prove that text is indeterminate); Richard A. Posner, *The Incoherence of Antonin Scalia*, NEW REPUBLIC (Aug. 24, 2012), http://www.tnr.com/article/magazine/books-and-arts/106441/scalia-garner-reading-the-law-textual-originalism (arguing that textualism has "all the room needed to generate the outcome that favors Justice Scalia's strongly felt views").

patent is written. Although the true intended audience of a patent will perhaps vary with an individual patentee (e.g., some patentees might file a patent just to show off to their friends), it is a reasonable generalization to say that most patents are filed to disclose an invention to the relevant scientific field and to claim monopoly rights against competitors, and that these people (i.e., scientists and competitors working in the same field) are thus the intended audience of most patents.[110] And because a patent is generally written just before it is filed, the filing date of a patent provides a reasonable approximation of the date by which the linguistic meaning is determined.[111] It follows that the linguistic meaning of a claim will generally be the understanding of a person working in the same field as the patentee (often called a "person skilled in the art") at the time of the filing of the patent.

It is important to counter-distinguish linguistic meaning from four extraneous concepts. The first clarification is that the linguistic meaning does not depend on the patentee's *unexpressed* intent.[112] This is important because courts often refer to a patentee's intent in attempting to discern the meaning of a claim,[113] but such a standard is prone to circularity. The patentee's intent, if characterized at a high level of abstraction, is obvious and known to all: it is to claim as broad a monopoly as a court will let him get away with.[114] Referring to this standard will make claim interpretation a tautology: courts will interpret claims according to the patentee's intent, but the patentee's intent will be to

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110. Ajinomoto Co. v. Archer-Daniels-Midland Co., 228 F.3d 1338, 1347 (Fed. Cir. 2000) ("A patent . . . presumes a readership skilled in the field of the invention."). A true cynic might argue that patent claims are not written for skilled artisans but for the judge who adjudicates an infringement dispute. *See* John M. Golden, *Construing Patent Claims According to Their "Interpretive Community": A Call for an Attorney-Plus-Artisan Perspective*, 21 HARV. J.L. & TECH. 321, 340 (2008); Mark D. Janis & Timothy R. Holbrook, *Patent Law's Audience*, 97 MINN. L. REV. 72, 99 (2012) (arguing that the skilled artisan is a hypothetical construct). This is in some sense true, but one must not use the perspective of an adjudicating judge as the audience for a legal command, because it makes the analysis completely circular—the meaning of the command becomes whatever the judge decides. *See supra* text accompanying note 105.

111. *Cf.* Playtex Prods., Inc. v. Procter & Gamble Co., 400 F.3d 901, 906 (Fed. Cir. 2005) (reasoning that a claim's meaning is assessed as of the filing date).

112. *Cf.* Markman v. Westview Instruments, Inc., 52 F.3d 967, 985 (Fed. Cir. 1995) (en banc) ("No inquiry as to the subjective intent of the applicant or PTO is appropriate . . . ."), *aff'd*, 517 U.S. 370 (1996).

113. *See, e.g.*, Winans v. Denmead, 56 U.S. 330, 341 (1853) (stating that claims are to be construed according to what the patentee "intended to do").

114. MERGES & DUFFY, *supra* note 25, at 26 ("The overall goal when drafting claims is to make them as broad as the Patent Office will allow.").

claim whatever the courts allow.[115] Patentee intent in this broad sense is a useless point of reference.[116]

The second clarification is that linguistic meaning refers to how a person skilled in the art would understand *the language* of the claim. It does not refer to that person's understanding of the patentee's *invention*—i.e., the idea that a patentee is entitled to monopolize.[117] This is important because courts often state that they are interpreting claims in accordance with the patentee's invention.[118] But a standard based on the patentee's invention is also ultimately circular and useless. What a patentee is *entitled* to monopolize is a legal judgment that is controlled by courts.[119] Thus, referring to such a standard again makes claim interpretation a tautology: courts will interpret claims according to a patentee's legal entitlement, but that legal entitlement will be whatever the court decides is allowable.[120]

The third clarification is that, although linguistic meaning depends on the language of the claim, it is *not* simply a matter of always going by the literal dictionary definition. For example, a doctor who says "you are not going to die" to an emergency room patient is not understood to promise eternal life.[121] We are not members of the so-called "'dictionary uber alles' school of

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115. *See supra* text accompanying note 105.

116. Patentee intent at a lower level of generality is useful, because the understanding of the reader will depend on what the patentee intends to communicate through the language. *See* GRICE, *supra* note 79, at 86-116. To avoid the frequent confusion that surrounds discussions of patentee "intent," we analyze the linguistic meaning from the perspective of the reader rather than the author. But one can get to essentially the same results with a careful and narrow understanding of the patentee intent as what is communicated by language, rather than a meta-level conception of intent as the patentee's desired outcome.

117. *Cf. Markman*, 52 F.3d at 985 ("[I]t is not unusual for there to be a significant difference between what an inventor thinks his patented invention is and what the ultimate scope of the claims is . . . ."); Jeanne C. Fromer, *Patent Disclosure*, 94 IOWA L. REV. 539, 566 (2009) ("The legal scope of the patent right is not the same as a technical understanding of the patented invention.").

118. *See, e.g.*, United States v. Adams, 383 U.S. 39, 49 (1966) (stating that claims are "to be read with a view to ascertaining the invention"); Eibel Process Co. v. Minn. & Ont. Paper Co., 261 U.S. 45, 63 (1923) (stating that courts look for "what the real merit of the alleged discovery or invention is").

119. Tun-Jen Chiang, *The Levels of Abstraction Problem in Patent Law*, 105 NW. U. L. REV. 1097, 1122-24 (2011) (explaining that courts face an inherent judgment call when defining the "invention" for patent scope purposes).

120. *See supra* text accompanying note 105.

121. *See* Osenga, *supra* note 96, at 126 (giving this example).

thought,"[122] and we are not advocating unthinking reliance on dictionaries. A dictionary definition is merely a particular learned author's opinion about the common usage of a word in society.[123] To the extent that a dictionary definition can be expected to reflect the usage of persons of skill in the art, it is a useful proxy for the underlying inquiry. But it is only a proxy, and we ascribe no magical properties to dictionaries. Dictionaries can be wrong about the common usage of a word,[124] and the common usage in any case can fail to reflect the particular understandings of a scientific field or fail to capture the contextual nuances of a particular usage in a particular patent. The important inquiry for interpretation is always how people in the field would understand the claim language, *qua* language, in the context of the patent in which it appears.

The fourth clarification is that the interpretation-construction distinction is entirely different from the distinction between intrinsic and extrinsic evidence.[125] Much conventional case law and literature discusses whether linguistic meaning is best derived from "intrinsic" evidence such as the patent specification and prosecution history or "extrinsic" materials such as dictionaries or expert testimony.[126] To us, that debate is a red herring. Both intrinsic and extrinsic evidence are relevant to interpreting linguistic meaning, and both intrinsic and extrinsic evidence are relevant to construing legal effect. Our point is that they are relevant in different ways to each inquiry.[127]

2. *Constructing the Legal Effect of Claims*

The construction of claims is the task of determining the legal scope of the claim, and ultimately of the patent. At this step, a judge has two important decisions. First, he must decide what weight to give to the linguistic meaning of the text, if any. As a realist matter, judges do not have to follow the linguistic

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122. MERGES & DUFFY, *supra* note 25, at 821 (coining the phrase); *see also* Nard, *supra* note 1, at 4-5 (calling this "hypertextualism").

123. More direct evidence of common usage, e.g., a compilation of data about actual usage in newspaper articles or specialized journals, would be the same as or even better than a dictionary definition.

124. *See* Nix v. Hedden, 149 U.S. 304, 306-07 (1893) (finding that, although a dictionary defined a tomato as a fruit, "in the common language of the people" it was a vegetable).

125. *Cf.* Timothy R. Holbrook, *Patents, Presumptions, and Public Notice*, 86 IND. L.J. 779, 780 (2011) (associating "the understanding of technologists in the relevant field" with extrinsic evidence and "legalistic" conclusions with intrinsic evidence).

126. *See infra* Section IV.A.

127. *See infra* Subsection IV.C.3 (describing two different types of "context").

meaning in determining claim scope, and as we shall see they regularly do not. To the extent that judges choose to construct claim scope by some other point of reference, the outcome (and the certainty/uncertainty of that outcome) will depend on that alternative point of reference. As we will discuss in more detail in Section IV.B, the most common alternative point of reference is to construct patent scope to cover the patentee's inventive idea.

Secondly, to the extent that a judge chooses the linguistic meaning as his lodestar, the linguistic meaning may run out. Vague terms such as "near," "about," or "approximately" are common in patent claims,[128] and there will always be the question of how close is close enough. Disputes involving borderline cases are in the construction zone. In such cases, a judge will have to resort to some alternative point of reference to resolve the dispute.

B. An Illustration: Phillips v. AWH Corp.

A good way to demonstrate the clarity that the interpretation-construction distinction brings to the debate is to apply it to *Phillips v. AWH Corp.*,[129] the canonical case on claim analysis.

In *Phillips*, the patentee held a patent over a type of reinforced wall, which had internal steel supports (known as "baffles"). As the patentee had originally conceived his invention, the reinforced wall was to be used in "jails, bank vaults, armories, [and] firing ranges,"[130] and so he configured the internal steel supports to deflect bullets.[131] Accordingly, in the patent specification, the patentee described the invention as a wall containing "bullet deflecting internally directed steel baffles."[132] The patent specification also repeatedly emphasized bullet resistance as an important advantage of the patentee's wall over other walls.[133]

In the claim, however, the patentee made no mention of configuring the steel supports to deflect bullets or requiring the wall to have any kind of bullet

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128. *See, e.g.*, *In re* Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig., 676 F.3d 1063, 1072 (Fed. Cir. 2012); Ortho-McNeil Pharm., Inc. v. Caraco Pharm. Labs., Ltd., 476 F.3d 1321, 1326-27 (Fed. Cir. 2007); Young v. Lumenis, Inc., 492 F.3d 1336, 1345-46 (Fed. Cir. 2007).

129. 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

130. U.S. Patent No. 4,677,798 col. 6 ll. 4-5 (filed Apr. 14, 1986).

131. *Phillips*, 415 F.3d at 1310.

132. '798 Patent, at [57].

133. *Id.* at col. 3 ll. 26-32, 43-44; *id.* at col. 5 ll. 67-68; *id.* at col. 6 ll. 10-12, 14-17.

resistance. Instead, the patentee claimed walls made with "internal steel baffles" generally.[134]

The dispute arose when the defendant, AWH Corp., manufactured walls that had internal steel supports, but which were configured in a way that did not deflect bullets. Thus, pursuant to one reading—if "baffles" referred to any type of steel support—the defendant would have infringed the patent. But under an alternative reading—if "baffles" referred only to steel supports that were configured to deflect bullets—there would have been no infringement. The Federal Circuit obviously regarded this dispute as one over linguistic ambiguity, because the court's opinion features an extended discussion of proper methodology to discern linguistic meaning.[135] Moreover, Judge Lourie dissented as to the outcome, even while largely agreeing with the majority's methodology.[136]

1. Interpretation

The Federal Circuit regarded the dispute as one over linguistic ambiguity, but is there any such ambiguity in fact? That is, is there any reasonable dispute over how a person of ordinary skill in the art (in this case, a builder) would have understood the claim term "baffle" in the Phillips patent?

Initially, we can concede there is one type of ambiguity in the word. If one were reading the word entirely without context—if someone randomly came to you on the street and simply said, "baffle"—the word would have multiple potential semantic definitions. It can be a noun that refers to a type of support in walls, or it can be a verb that refers to confusing someone (e.g., "I'm baffled by what you are saying"). In this sense, the word "baffle" by itself would be linguistically ambiguous.

But looking at the patent in *Phillips* quickly eliminates this potential ambiguity. It is quite clear that the word "baffle" in the patent is being used as a noun in the sense of wall supports and not as a verb in the sense of confusing people. Only a minimal amount of context is required to know this: the surrounding words "internal" and "steel" make it impossible to understand "baffle" to operate as a verb.

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134. *Phillips*, 415 F.3d at 1310-11.

135. *Id.* at 1314-24; *see also* Phillips v. AWH Corp., 376 F.3d 1382, 1383 (Fed. Cir. 2004) (en banc) (per curiam) (ordering rehearing en banc and directing the parties to discuss, among other things, whether "the public notice function of patent claims [is] better served by referencing primarily to technical and general purpose dictionaries and similar sources to interpret a claim term or by looking primarily to the patentee's use of the term in the specification").

136. *Phillips*, 415 F.3d at 1328-29 (Lourie, J., concurring in part and dissenting in part).

Not only is there little evidence of ambiguity, there is strong linguistic evidence of what the word "baffle" means in the context of the patent. The patent abstract describes the invention as containing "bullet deflecting . . . baffles."[137] As a semantic matter, this indicates that the word "baffle" is not a label that refers only to something that inherently deflects bullets. As a matter of normal English, we say "a Catholic priest" but we do not say "the Catholic Pope," because priests are not inherently Catholic while Popes are. Thus, the fact that the patent uses the words "bullet deflecting . . . baffle" is strong evidence that the word "baffle" expresses a concept of something that does not inherently deflect bullets.

At this point, we are likely to get pushback from readers familiar with patent law, in some variant of this argument: "Yes, the word baffle in the abstract means steel supports at any angle, but the purpose of this invention—as indicated by the quote about 'bullet deflecting . . . baffles'—is to deflect bullets, and the patentee made that clear in the specification. Therefore, a builder would understand that the baffle in this patent must be aligned to deflect bullets."[138]

To which our answer is: correct, but that does not go to the linguistic meaning. The linguistic meaning concerns the person of ordinary skill in the art's understanding of the *claim language*, which is a factual question. It does not concern the purpose of the *invention*, which is a policy judgment and legal construct. This is not to say that the argument is irrelevant to claim analysis. Saying that the linguistic meaning of "baffles" is steel supports at any angle *does not imply the further proposition* that this must be the legal scope of the claim. Thus, the normative argument should be considered in the construction step. In the next Subsection, we will show how this works.

2. *Construction*

The prior Subsection in many ways reflects something that appears in the *Phillips* opinion itself. Nobody in *Phillips*—none of the majority, the dissenters, the litigants, or the amici—disputed that the "ordinary meaning" of "internal steel baffle" in the construction industry referred to internal steel supports generally, rather than steel supports that were configured to deflect bullets.[139]

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137. '798 Patent, at [57].

138. *See, e.g.*, Mark A. Lemley, *The Limits of Claim Differentiation*, 22 BERKELEY TECH. L.J. 1389, 1393 (2007) (criticizing the *Phillips* majority because "the court interpreted a claim to encompass an embodiment . . . that would not achieve the purpose of the invention").

139. *See Phillips*, 415 F.3d at 1324 (citing a stipulated dictionary definition); *id.* at 1329 (Lourie, J., concurring in part and dissenting in part) (making no textual argument and arguing only

What the accused infringer and the dissent argued, however, was that the *purpose of the invention* was to have baffles that deflected bullets:

> [A] patent specification is *intended to describe one's invention* . . . . This specification makes clear that the "baffles" in *this invention* are angled. There is no reference to baffles that show them to be other than angled. The abstract refers to "bullet deflecting . . . baffles." Only angled baffles can deflect. It then mentions "internal baffles at angles for deflecting bullets." That could not be clearer.[140]

As the quote demonstrates, the dissent is not making an argument about linguistic usage.[141] The dissent's basic argument is that *the patentee's invention* (as shown by the specification) is a bullet-deflecting baffle. Its point is that "baffle" *should* mean something that deflects bullets, because otherwise the claim would cover more than the idea that the patentee had really invented.[142]

But, as above, this is construction, not interpretation. An argument that "baffle" must mean something that deflects bullets because otherwise the claim covers an idea the patentee did not invent has the same form as an argument that "Congress" must mean all government because otherwise the First Amendment does not prohibit the President from imprisoning dissidents. Both are arguments that say that a word, taken by its linguistic meaning, will produce *bad outcomes*. Both arguments may have validity, but they are normative arguments – they are not about linguistic meaning. It is conceptually clearer, and avoids twisting words into pretzels, to acknowledge that "baffle" linguistically refers to a steel support at any angle, but suggest that, for policy reasons, the claim should be given a narrower legal scope, covering only steel supports that deflect bullets.

This, we submit, is a much clearer and more precise version of what the dissent's argument in *Phillips* really was. Adopting this view of the case allows

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that the "specification makes clear that the 'baffles' in *this invention* are angled" (emphasis added)); *id.* at 1330 (Mayer, J., dissenting) (arguing that claim analysis should be done by district courts and not opining on the merits).

140. *Id.* at 1329 (Lourie, J., concurring in part and dissenting in part) (emphasis added).

141. Several commentators have argued to us that the linguistic meaning of "baffle" is ambiguous because, accepting that "baffle" refers to any structure that impedes flow, there would still be no infringement in *Phillips* given that the accused structure was perpendicular to the wall. We agree that one could make this linguistic argument in favor of finding non-infringement in *Phillips*. Our response is that the argument was not made by the dissent and thus was not the cause of judicial disagreement in the case. Nor does this argument illustrate any ambiguity in the word "baffle." The argument is saying that the majority *determinately* erred in applying the linguistic meaning of "baffle," not that the meaning is indeterminate.

142. *See* Lemley, *supra* note 138, at 1393.

us to see that the two sides were talking past each other with entirely different modes of argumentation. The majority cites a dictionary definition of "baffle" and the linguistic usage in the specification;[143] the dissent cites the purpose of the invention.[144] Implicitly, the majority adopts a theory of construction where the linguistic meaning will be followed, while the dissent adopts a theory of construction that disregards the linguistic meaning in favor of the purpose of the invention. We are not taking sides here on which is the better theory of construction. Our point is an antecedent one: it is impossible to see what is going on without first dissecting the difference between the majority's focus on the linguistic meaning of text, given its theory of construction that text must be followed, and the dissent's focus on the purpose of the invention as the reference point for its theory of construction.

C. *Prior Articulations of the Interpretation-Construction Distinction in Patent Law*

At this point, it is useful to note that other authors have previously distinguished between "interpretation" and "construction" in ways that seem to track our analysis. We think that this history is helpful to our argument in proving that the conceptual difference between interpretation and construction is a real feature of claim analysis and thus has not gone entirely unnoticed by participants in the patent system. Nonetheless, as we will explain, we also think that prior articulations of the distinction have not fully captured its essence, and that the inadequacies of these prior articulations have unfortunately obscured the underlying importance of drawing the distinction for purposes of conceptual clarity.

The PTO historically drew the interpretation-construction distinction in this form: its examiners – as people of skill in the art – "interpret" patent claims during examination, while courts "construe" claims in litigation to determine their legal effect.[145] The consequence, according to the PTO, was that its examiners were not bound by the same rules that courts applied to construe

143. *Phillips*, 415 F.3d at 1324-25. The majority later argues that its holding does not contradict the purpose of the invention because the patent never describes bullet resistance as the *exclusive* purpose of the invention. *Id.* at 1325-27. In this way the majority gives some attention to the purpose of the invention, but only as lip service. The key point is that the majority gives great weight to linguistic considerations and little weight to the purpose of the invention, while the dissent does the opposite.

144. *Id.* at 1329 (Lourie, J., concurring in part and dissenting in part).

145. MARTIN J. ADELMAN ET AL., CASES AND MATERIALS ON PATENT LAW 652 (3d ed. 2009).

patent claims.[146] The PTO no longer abides by this position,[147] and we think the position is defective. PTO examiners are still looking at the legal effect of claims to determine whether the patent is legally entitled to issue, and thus are doing construction. Nonetheless, the parallels at first glance between the PTO's historical position and our articulation of the real conceptual difference between interpretation and construction are quite obvious.

Another variant of the interpretation-construction distinction has been put forward by Dan Burk and Mark Lemley, who use the label "interpretation" to denote a determination of the (legal) meaning of the claim while using the label "construction" to denote the application of the claim language to the concrete facts of an accused product.[148] As we explained in Subsection II.C.1, we think this is a miscomprehension of what the interpretation-construction distinction is about, but in any event, we use the terms "interpretation" and "construction" to refer to different concepts than those proposed by Burk and Lemley.

In our minds, the closest prior exposition of the interpretation-construction distinction in patent law appears in Judge Newman's dissenting opinion in *Markman v. Westview Instruments, Inc.*[149] In that opinion, Judge Newman stated:

> In patent infringement litigation there is often a factual dispute as to the meaning and scope of the technical terms or words of art as they are used in the particular patented invention. When such dispute arises its resolution is not a ruling of law, but a finding of fact. Such findings of meaning, scope, and usage have been called the "interpretation" of disputed terms of a document, as contrasted with the "construction" or legal effect of a document.[150]

At first glance, this quote from Judge Newman quite closely matches our conception of the interpretation-construction distinction. Yet it does not fully capture the essence of the distinction. In Judge Newman's view, the proper

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146. *See In re* Alappat, 33 F.3d 1526, 1539 (Fed. Cir. 1994) (noting the PTO's position that "the rules of claim construction in infringement actions differ from the rules for claim interpretation during prosecution in the PTO").

147. ADELMAN ET AL., *supra* note 145, at 652. The PTO does continue to abide by the position that it construes claims more broadly than courts do during infringement litigation. MPEP § 2111 (8th ed. Rev. 9, Aug. 2012). But it no longer relies on a conceptual distinction between interpretation and construction to maintain its position.

148. Burk & Lemley, *supra* note 37, at 50.

149. 52 F.3d 967 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996).

150. *Id.* at 1000 (Newman, J., dissenting).

interpretation of claims will depend a great deal on what the interpreter thinks *the invention* is. As Judge Newman explains later in her dissent, her version of interpretation looks to the patent specification because it "*contains the description of the invention.*"[151] We think this is a serious mistake: as explained above, and as we will emphasize in the next Part, we think that an essential insight of the interpretation-construction distinction is to distinguish between the meaning of claim language, *qua* language, on one hand, and the patentee's invention, on the other. In this respect, we think our articulation of the interpretation-construction distinction is closer to the real conceptual difference between the two activities, and that our version provides important insights into claim analysis that Judge Newman's version obscures.

IV. WHY DISPUTES ARE OVER CONSTRUCTION

A. *The Conventional Framing: Dictionary Versus Specification as Guides to Linguistic Meaning*

In the conventional framing, the Federal Circuit is divided into two camps.[152] One camp, the "dictionary-first" camp, supposedly sees the dictionary as being the best guide to linguistic meaning:

> Dictionaries, encyclopedias and treatises, publicly available at the time the patent is issued, are objective resources that serve as reliable sources of information on the established meanings that would have been attributed to the terms of the claims by those of skill in the art. Such references are unbiased reflections of common understanding . . . not colored by the motives of the parties, and not inspired by litigation.[153]

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151. *Id.* at 1002 (emphasis added). We should note here that we have no objection to looking to the specification as part of the interpretative process. But our reason to look at the specification—for linguistic context—is very different from Judge Newman's. *See infra* Subsection IV.C.3.

152. *See, e.g.*, Bender, *supra* note 1, at 215-16 (discussing conflicting methodologies); Hattenbach, *supra* note 5, at 189-90 (criticizing dictionaries and arguing for greater reliance on the specification); Karen C. Mitch, *Pondering a "Baffling" Situation: The "Reconstruction" of Claim Construction*, 4 J. MARSHALL REV. INTELL. PROP. L. 623, 631 (2005) (describing "uncertainty" resulting from two conflicting methodologies); Kelly Casey Mullally, *Patent Hermeneutics: Form and Substance in Claim Construction*, 59 FLA. L. REV. 333, 356-57 (2007) (distinguishing between the "formalist" and "substantive" approaches); Osenga, *supra* note 3, at 78 (observing "the split between the dictionary-dependent and the specification-dependent factions").

153. Tex. Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202-03 (Fed. Cir. 2002).

The opposing camp, commonly called the "specification-first" camp, supposedly opposes the dictionary-first camp by arguing that the patent specification provides a better guide to linguistic meaning:

> The best source for understanding a technical term is the specification from which it arose, informed, as needed, by the prosecution history. The evolution of restrictions in the claims, in the course of examination in the PTO, reveals how those closest to the patenting process—the inventor and the patent examiner—viewed the subject matter.[154]

What happens frequently in cases is that one camp of judges will cite the dictionary to support a broad construction of the claim, while another camp of judges will cite the specification for a narrow construction. In *Phillips*, for example, the majority opinion invokes a dictionary definition to say that "baffle" means a steel support capable of "obstruct[ing] the flow of something" generally,[155] while the dissent cites the specification to say that "baffles" in the particular patent must be angled and capable of deflecting bullets.[156] Rhetorically, both sides appear to be pursuing the linguistic meaning, just using different tools.

B. The Real Dispute: Linguistic Meaning Versus the "True" Invention

The core payoff of applying the interpretation-construction distinction in patent law is to show that the conventional framing is fundamentally misconceived. The conflict does not occur because the dictionary-first camp and the specification-first camp are both pursuing the linguistic meaning but coming to different results. Rather, the uncertainty in claim analysis arises because some judges adopt a textualist theory of construction that pursues the linguistic meaning of claim text while others adopt a theory of construction that pursues the true invention. It is this age-old conflict between textualism and anti-textualism—a quintessentially *normative* conflict—that causes claim uncertainty. Below, we elaborate on the mechanism by which this conflict arises.

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154. Multiform Desiccants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1478 (Fed. Cir. 1998).

155. Phillips v. AWH Corp., 415 F.3d 1303, 1324 (Fed. Cir. 2005) (en banc).

156. *Id.* at 1329 (Lourie, J., concurring in part and dissenting in part).

1. *Doctrine Treats the Patentee's Invention as Equivalent to the Linguistic Meaning of Claim Text*

Initially, we think it utterly uncontroversial to say that judges routinely seek to construe claims to cover the patentee's invention. Indeed it is considered axiomatic that they do so. Courts treat "the understanding of claim text by a person of skill in the art" and "the patentee's invention" as if they were interchangeable and equivalent concepts. In *United States v. Adams*, the Supreme Court says "it is fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention."[157] In *Phillips v. AWH Corp.*, the Federal Circuit holds that the question for claim construction is "how a person of ordinary skill in the art understands a claim term."[158] The courts perceive absolutely no difference between these two formulations. Indeed, often the same case recites both formulations in one breath.[159]

2. *The Patentee's Invention Is* Not *the Linguistic Meaning of Claim Text*

What these courts do not appreciate is that the patentee's invention is not the linguistic meaning of claim text. The "invention" is the new, useful, and non-obvious idea that the patentee discloses in the patent specification. The linguistic meaning of claim text is how a person of ordinary skill in the art would understand the language of the claim text. The relevant relationship between the two is that section 112 of the patent statute says the patentee is *supposed to* write claim text that covers his actual invention.[160] The fact that the patentee has a statutory *duty* to write claims that cover the invention, however, does not mean that patentees inherently *comply*. It is absurd to equate the existence of a duty with compliance at a conceptual level. If a tax evader claims an income of "zero" on his tax return when his actual income was one million dollars, no one would argue that courts should therefore read "zero" to really mean "one million."

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157. United States v. Adams, 383 U.S. 39, 49 (1966).

158. 415 F.3d at 1313; *see also* Gen. Elec. Co. v. Wabash Appliance Corp., 304 U.S. 364, 372 (1938) (framing the question as "whether the language . . . conveyed definite meaning to those skilled in the art").

159. *See, e.g.*, *Phillips*, 415 F.3d at 1316 (quoting *Adams*, 383 U.S. at 49).

160. 35 U.S.C. § 112 (2006).

3. *Examples of Conflation*

Examples will prove our proposition that courts incorrectly conflate the two concepts into a single doctrine, which then allows individual judges to invoke different theories of construction while purporting to apply a shared concept of "meaning." Our prior discussion of *Phillips* already provided one example.[161] In *Phillips*, beneath a veneer of agreement regarding claim construction doctrine,[162] there is in fact no agreement at all: the majority is looking for the linguistic meaning of "baffle," while the dissent is looking for the true invention.

A second example—with the arguments the same but the results reversed—is *Retractable Technologies, Inc. v. Becton, Dickinson & Co.*[163] The facts of the case involve a patent on a type of syringe with a "body." In the patent specification, all the examples given were of one-piece syringes. The question was whether the claim term "body" covered a competitor's two-piece syringe.

The majority opinion began by looking at the ordinary meaning of "body," and conceded that the ordinary meaning alone could cover syringes with multiple pieces. However, it then held:

> In this case, while the claims leave open the possibility that the recited "body" may encompass a syringe body composed of more than one piece, the specifications tell us otherwise. They expressly recite that "the invention" has a body constructed as a single structure, expressly distinguish the invention from the prior art based on this feature, and only disclose embodiments that are expressly limited to having a body that is a single piece. Thus, *a construction of "body" that limits the term to a one-piece body is required to tether the claims to what the specifications indicate the inventor actually invented.*[164]

This quote clearly demonstrates that the *Retractable Technologies* majority is construing the scope of the claim based on its conception of what the patentee invented. This is in contrast to the approach of the *Retractable Technologies*

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161. *See supra* Section III.B.

162. *See Phillips*, 415 F.3d at 1328-29 (Lourie, J., concurring in part and dissenting in part) ("I fully join the portion of the court's opinion resolving the relative weights of specification and dictionaries in interpreting patent claims . . . . I could elaborate more expansively on that topic, but Judge Bryson's opinion for the majority says it so well, there is little reason for me to repeat its truths.").

163. 653 F.3d 1296 (Fed. Cir. 2011).

164. *Id.* at 1305 (emphasis added).

dissent, which focuses its analysis on the linguistic meaning of "body." The dissent begins by noting that "[t]he ordinary and customary meaning of 'body' does not inherently contain a one-piece structural limitation."[165] It then argues that the fact that the patentee used the words "one-piece body" in the specification actually creates a linguistic inference that "body" is *not* limited to a single piece object: if the patentee had thought that "body" was a label for an object that inherently had only a single piece, then the phrase "one-piece body" would be redundant.[166] Once again, we have two camps that are speaking past each other because they are looking for different things.

A final example that illustrates why this divide causes so much uncertainty is *Marine Polymer Technologies, Inc. v. Hemcon, Inc.*,[167] where the en banc Federal Circuit divided exactly 5-5. In *Marine Polymer*, the patentee invented a process for creating a type of polymer, known as poly-ß-1→4-N-acetylglucosamine (p-GlcNAc), which is useful in medical applications.[168] In particular, the patentee developed what he called "biocompatible" p-GlcNAc, which everyone agreed was a reference to the compound's degree of biological reactivity (lower reactivity was better).[169] The precise question at issue was whether the word "biocompatible" specifically denoted *zero* reactivity.

In the first opinion, authored by Judge Lourie, one half of the court argued that "biocompatible" meant that a compound must have zero detectable reactivity.[170] Judge Lourie based his decision exclusively on a passage from the specification that stated: "[I]t is demonstrated that the p-GlcNAc *of the invention* exhibits no detectable biological reactivity."[171]

In the second opinion, authored by Judge Dyk, the other half of the court argued that "biocompatible" meant only that a compound exhibits low reactivity and did not necessarily have to exhibit zero detectable reactivity.[172] Judge Dyk based his decision on the fact that the patentee had written two sets of claims[173]: In one set of claims, the patentee had claimed all "biocompatible" p-GlcNAc compounds generically;[174] while in the other set of claims he had

165. *Id.* at 1312 (Rader, C.J., dissenting).

166. *Id.*

167. 672 F.3d 1350 (Fed. Cir. 2012) (en banc).

168. *Id.* at 1354 (opinion of Lourie, J.).

169. *Id.* at 1354-55.

170. *Id.* at 1359.

171. *Id.* at 1358 (alteration in original) (emphasis added).

172. *Id.* at 1368 (opinion of Dyk, J.).

173. *Id.*

174. *See* U.S. Patent No. 6,864,245 col. 71 ll. 57-65 (filed July 11, 2003).

specifically claimed a "biocompatible poly-ß-1→4-N-acetylglucosamine . . . *which has an elution test score of 1*" (the elution test is a test of reactivity, with a score of zero denoting no detectable reactivity).[175] If the word "biocompatible" itself denoted a compound that had zero detectable reactivity, then a claim to "biocompatible p-GlcNAc having an elution test score of 1" (denoting low detectable reactivity) would be nonsensical.

Once we conceptually distinguish between the linguistic meaning and the patentee's invention, it becomes clear again that the court is really disagreeing over the proper theory of construction. Judge Lourie's opinion is focusing on what the patentee invented. Judge Dyk's opinion is focusing on what the linguistic rules of English tell us about the linguistic meaning of the word "biocompatible." There is in fact no contradiction between saying that the word "biocompatible" means low (and not necessarily zero) detectable reactivity as a linguistic matter, and saying that the invention is p-GlcNAc of zero detectable reactivity. What we must realize is that the linguistic meaning of the claim language does not always reflect the patentee's invention. The widespread perception that the two sides disagree over linguistic meaning occurs only because of the incorrect conflation of the linguistic meaning with the substantive invention.

C. *The Consequences of Conflation*

1. *The Incorrect Diagnosis of Linguistic Indeterminacy*

The first pernicious consequence of the conceptual confusion in this area is that courts and commentators wrongly attribute legal uncertainty to linguistic defects. As we have shown, in many of the most prominent cases, the conflict and uncertainty about legal outcomes is not attributable to any kind of linguistic uncertainty—the linguistic meaning of the disputed terms in *Phillips*, *Retractable Technologies*, and *Marine Polymer* is quite clear, and the anti-textualist side in these cases did not make any *linguistic* arguments to dispute the meaning of the claim. Rather, the counterargument in all these cases is that the linguistic meaning departs from the patentee's actual invention. That may be a good argument, but it is not a linguistic argument.

175. *Id.* at col. 72 ll. 1-2 (emphasis added).

2. *Obscuring Judicial Policy-Making*

A second pernicious consequence of the conflation is that judges obscure their policy-making role under the guise of debating an objective linguistic question.[176] That is, a judge who argues for construing a claim according to the true invention is *really* making a policy argument about the optimal degree of patent scope. But, under the rhetoric of the linguistic indeterminacy thesis, the issue is framed as a pure linguistic debate that is independent of judicial policy views. The conflation thus has the harmful consequence of rendering judicial decisions less transparent and shielding judges from the need to explain and justify their policy decisions.

In order to fully appreciate why judges are invariably making policy judgments in claim construction, it is first important to understand that "the true invention" is not an objective fact that has independent existence outside the control of courts.[177] Rather, it is a legal construct: a court looking for "the true invention" will invariably find that the invention is whatever *the judge* thinks it is.

This requires some explanation. The patentee's invention can generally be understood as the new, useful, and non-obvious idea that is disclosed in the patent.[178] Whether an idea is "useful" entirely depends on what kinds of things the judge thinks are useful to society (using some theory of social utility), which is a matter of subjective judgment rather than objective fact. More counterintuitively, "the" idea that is disclosed in the patent is also a matter of judgment rather than fact because every patent contains an almost-infinite array of new and useful ideas at different levels of abstraction. Choosing one idea to call *the* inventive idea is therefore a legal construct.

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176. Farnsworth made a similar point regarding the conflation of interpretation and construction in contract law. Specifically, he wrote that courts have "often ignored [the interpretation-construction distinction] by characterizing the process of construction as that of 'interpretation' in order to obscure the extent of their control over private agreement." E. ALLAN FARNSWORTH, CONTRACTS 478 (1982).

177. Chiang, *supra* note 119, at 1122-23. Oskar Liivak argues that "the invention" is an objective concept and that patent scope should be limited to the invention. Liivak, *supra* note 43, at 5. One of us has criticized Liivak's definition of the invention elsewhere. Tun-Jen Chiang, *Defining Patent Scope by the Novelty of the Idea*, 89 WASH. U. L. REV. 1211, 1237 & n.154 (2012). For present purposes, we merely note that, even if the invention could be defined in some objective manner, there would still be a second-order normative policy choice about whether to have patent scope governed by the linguistic meaning of the claim language or by the invention. Thus, we believe that the most significant issues raised by Liivak's argument go to construction rather than interpretation.

178. *See* 35 U.S.C. §§ 101-103, 112 (2006) (outlining the conditions for obtaining a patent).

To see this, consider the example given in Section I.A of the Wright brothers, who invented the first working airplane in the form of a wooden glider. Is their invention:

"All flying machines," including helicopters?

"All flying machines with fixed wings," including jets?

"All wooden flying machines," including World War I fighter planes that were much better than the Wright glider?

"A single barely flying wooden glider, down to the paint color," which would be instantly outdated?

Each of these ideas can be accurately described as the invention; they differ only in their level of abstraction. There is no objectively correct answer to selecting among these competing ideas. Because there is no objective "true invention," saying that judges should award patent scope according to the true invention creates a circularity: the true invention is ultimately whatever a judge finds it to be, and the judge that uses the true invention as his lodestar will simply end up importing his own beliefs about desirable patent scope into law.

We should make clear that having judges make policy judgments about desirable patent scope is not necessarily a bad thing: because there is no objective "true invention," *somebody* has to make the judgment call on the scope of the patent, and it is not clear there are better alternatives than having a judge do it. Nor is saying that judges make "policy" the same as saying that courts are super-legislatures that do whatever they feel like: judges may draw on a wide range of principles, from utilitarian economics to natural rights theory, to guide their decision-making. Our point is that the determination necessarily requires a judge to exercise normative judgment, and pretending that claim analysis is a linguistic question obscures this judicial policy-making role. In much of the existing literature, people speak as if the courts were simply debating what the patentee did in writing the claim language.[179] This view is so pervasive that academics routinely criticize the Federal Circuit for not being policy-oriented *enough*.[180] The obfuscation means that courts are relieved from having to explain and justify their policy decisions.

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179. *See supra* Section I.B.

180. *See, e.g.*, Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1671 (2003) ("The Federal Circuit has proven particularly resistant to considering patent policy in making its decisions."); Peter Lee, *Patent Law and the Two Cultures*, 120 YALE L.J. 2, 29-33 (2010) (arguing that the Federal Circuit is formalist and resists considering policy arguments); Arti K. Rai, *Engaging Facts and Policy: A Multi-Institutional Approach to Patent*

We should also make clear the nature of the policy disagreements at issue. Thus far, we have spoken of "textualists" and "anti-textualists" as if individual judges always fell into one camp or the other. But in fact judges sometimes oscillate between the approaches depending on other policy considerations, such as their first-order preferences on patent scope. That is, claims are written by patentees, and one can expect self-interested patentees to write the claim text broadly as a general matter. A textualist methodology will therefore tend to result in broader monopolies than an anti-textualist methodology. It is therefore no surprise that an individual judge can one day argue that the plain meaning of claim language should govern even when it results in a completely nonsensical invention, and the next day turn around and argue that the specification of the invention should override the plain meaning of claim text.[181] The judge is simply being a fair weather textualist, who adopts textualism only when it produces an outcome that coincides with his first-order preferences on patent scope.[182] A judge who thinks that an invention is very significant (and that the patentee therefore deserves a broad monopoly) will favor textualism *for that particular case*. Stated this way, it should be clear that even a seemingly textualist judge might really be acting on his first-order normative preferences. Once again, our agenda is not to praise seemingly-textualist judges or disparage seemingly-anti-textualist judges. Our point is to expose the policy disagreements that underlie claim construction disputes and explain why these disputes are not linguistic.

3. Conflating Linguistic Context with Policy Context

A particular example of the confused nature of the discourse—which the conflated thinking has caused—is the misuse of the word "context."

System Reform, 103 COLUM. L. REV. 1035, 1125-26 (2003) (arguing for measures to "dislodge the Federal Circuit from its rigid adherence to formalism").

181. *Compare* Honeywell Int'l, Inc. v. Universal Avionics Sys. Corp., 493 F.3d 1358, 1367 (Fed. Cir. 2007) (Plager, J., dissenting) (arguing for a plain meaning approach even when it causes the invention to be inoperative), *with* Retractable Techs., Inc. v. Becton, Dickinson & Co., 653 F.3d 1296, 1311 (Fed. Cir. 2011) (Plager, J., concurring) (arguing that claims should be construed according to the specification of the invention).

182. *See* Alexander Volokh, *Choosing Interpretive Methods: A Positive Theory of Judges and Everyone Else*, 83 N.Y.U. L. REV. 769, 805 (2008) ("[O]bserving, say, textualist decisions in the world may tell us more about *textualists* than it tells us about *textualism*.").

Anti-textualists in patent law routinely emphasize the importance of context to understanding language.[183] They criticize textualist judges for their tendency to over-rely on dictionary definitions, because such definitions do not consider the context within which a disputed claim term appears.[184] They argue that the specification is important to claim interpretation because it provides context.[185] At a facial level, we agree with all of these statements.

The problem is that there are two kinds of context. The first, which we will call the "linguistic context," is context that helps an interpreter discern the linguistic meaning. The second, which we will call the "policy context," is information that is relevant to resolving a policy issue under some second-order normative framework. For example, if one thinks that society should seek to award the economically efficient degree of patent scope,[186] then an important piece of policy context is what the patentee himself believed to be his invention (because it is generally economically inefficient to award more than this).

To see the difference between these two types of context, consider again the example of *Phillips*. In *Phillips*, the key disagreement between the majority and the dissent is what to make of the specification's statement that the invention comprises "bullet deflecting . . . baffles." As linguistic context, the phrase tells us that *the word* "baffle" does not refer to something that inherently deflects bullets (because otherwise the "bullet deflecting" modifier is redundant). But, as policy context, it tells us that the patentee regarded it as crucial that *the invention* deflect bullets, and therefore it would be bad policy to award the patentee a monopoly covering non-bullet-deflecting objects. Although the statement unquestionably provides important context to analyzing the claim,

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183. *See, e.g.*, Netword, LLC v. Centraal Corp., 242 F.3d 1347, 1352 (Fed. Cir. 2001) ("[C]laims . . . do not have meaning removed from the context from which they arose."); Burk & Lemley, *supra* note 37, at 49-52; Mullally, *supra* note 152, at 365-71.

184. *See, e.g.*, Nystrom v. TREX Co., 424 F.3d 1136, 1145 (Fed. Cir. 2005) (holding that the "ordinary and customary meaning" of a claim term must be discerned by reference to "the context of the intrinsic record" and not by reference to "a dictionary, treatise, or other extrinsic source").

185. *See, e.g.*, Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996) ("The specification contains a written description of the invention . . . . Thus, the specification is always highly relevant to the claim construction analysis.").

186. The efficiency standard is the dominant paradigm for determining scope in the patent literature. *See* Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141, 146 (1989) ("The Patent Clause itself reflects a balance between the need to encourage innovation and the avoidance of monopolies . . . ."); Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839 (1990).

its particular relevance depends on the kind of analysis (linguistic versus policy) that one is doing.

In patent law debates, the two distinct concepts of "context" have been conflated. In rhetorical debates, anti-textualists emphasize the importance of *linguistic context* and the inadequacy of dictionaries alone to determine linguistic meaning.[187] But in actual application to facts, they end up looking at *policy context* and making their decisions on that basis.[188] Judge Lourie's dissent in *Phillips* is not looking at the context of "bullet deflecting . . . baffles" for its linguistic implications.

The same two-step occurs in the patent literature, where scholars rhetorically emphasize linguistic context but end up advocating for a policy analysis. For example, Burk and Lemley start with the proposition that the correct understanding of claim language depends on "context,"[189] but their ultimate position is that courts should look to "the importance of the invention in the industry, the nature of the technology, how this invention relates to others in producing marketable products, and the relationship between the patentee's invention and the accused device."[190] Peter Lee begins by criticizing a "literalist" approach that "deprioritizes contextual factors,"[191] but what he really wants is for courts to look for "a patented invention's technological contribution."[192] Kelly Mullally begins by noting that "words have no meaning apart from their context,"[193] but then argues that courts should adopt a "substantive" methodology that construes claims according to "the context of the invention."[194] Finally, Chris Cotropia argues for "[c]ontextualizing the

187. *See, e.g.*, Multiform Desiccants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1477-78 (Fed. Cir. 1998) ("It is the person of ordinary skill in the field of the invention through whose eyes the claims are construed. Such person is deemed to read the words used in the patent documents with an understanding of their meaning in the field . . . . Thus the court starts the decisionmaking process by reviewing the same resources as would that person, *viz.*, the patent specification and the prosecution history.").

188. *See, e.g.*, *Vitronics*, 90 F.3d at 1582 ("The specification contains a written description of *the invention* . . . . *Thus*, the specification is always highly relevant to the claim construction analysis." (emphasis added)).

189. Burk & Lemley, *supra* note 37, at 49-51.

190. *Id.* at 54.

191. Lee, *supra* note 2, at 103-04; *see also supra* text accompanying note 64 (criticizing the literalist approach).

192. Lee, *supra* note 2, at 105.

193. Mullally, *supra* note 152, at 365.

194. *Id.* at 369-70.

claim meaning within the complete patent *document*,"[195] but what he really wants is for courts to look for "information about the *inventive activity* of the patentee."[196] Only by applying the interpretation-construction distinction can one see that these scholars are using two different versions of "context" in their arguments.

The fact that "context" has become code for a look-for-the-real-invention policy analysis has a follow-on consequence, which is that textualists treat "context" as if it were a dirty word. This induces textualists to emphasize acontextual dictionary definitions above all else.[197] Anti-textualists then rhetorically criticize the "dictionary uber alles" approach as ignoring context, and a vicious cycle of each side talking past the other is reinforced.

Beyond the problem of talking past each other, the undue emphasis on dictionaries leads textualists to interpretations that are inaccurate. An example of this error is the dissent in *Kinetic Concepts, Inc. v. Blue Sky Medical Group, Inc.*[198] In *Kinetic Concepts*, the patent pertained to a type of medical treatment. The claim recited "a treatment for a *wound*," and the question was whether "wound" meant any type of injury to body tissue generally or only an injury to skin. The majority held that it meant only injuries to skin,[199] while Judge Dyk in dissent argued that it meant any type of injury.[200] Judge Dyk's primary argument was that, because the medical dictionary says that a "wound" means any kind of injury to body tissue, a person of ordinary skill in the art would understand this to be so.[201]

To the extent that the dissent was looking for the linguistic meaning, it erred. It erred because, in the specification, the patentee describes placing a pad "onto the normal skin surrounding the wound."[202] This sentence contains the embedded *semantic* assumption that "wound" refers to something that happens to skin, in two ways: (1) it would make no sense to speak of "normal" skin if there weren't something that could be considered "abnormal" skin, and the abnormal skin is the wound; (2) if "wound" did not refer to something that is

195. Christopher A. Cotropia, *What Is the "Invention"?*, 53 WM. & MARY L. REV. 1855, 1880 (2012) (emphasis added).

196. *Id.* (emphasis added).

197. *See, e.g.*, Tex. Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202-03 (Fed. Cir. 2002) (emphasizing dictionaries).

198. 554 F.3d 1010 (Fed. Cir. 2009).

199. *Id.* at 1019.

200. *Id.* at 1027-29 (Dyk, J., dissenting).

201. *Id.* at 1028-29.

202. U.S. Patent No. 5,636,643, col. 11 ll. 9-10 (filed Mar. 9, 1993).

inherently on the skin, it would make no sense to speak of skin "surrounding" a wound. Because a reading of the specification would reveal that the patentee thought that the word "wound" *semantically* referred to objects on the skin, the intended reader of the patent would likewise come to this conclusion, which makes it the proper linguistic meaning.[203]

As this example illustrates, context is essential to proper interpretation. And an important source of linguistic context for most patent claims will be the specification, which is a part of the same document, is written by the same author, and is directed to the same audience.[204] We therefore agree that the context of the specification is essential to a proper understanding of the linguistic meaning.

But our agreement is limited to use of *linguistic* context to understand linguistic meaning, which is not what the advocates of considering specification "context" have in mind. The majority in *Kinetic Concepts* (led by Judge Lourie) did not make any of the linguistic arguments we have outlined. Instead, the majority simply argued: "All of the examples described in the specification involve skin wounds. To construe 'wound' to include fistulae and 'pus pockets' would thus expand the scope of the claims far beyond anything described in the specification."[205] This argument has nothing to do with linguistic context. It is a pure policy argument that it is unwise to allow patentees to cover more than what they invented and described in the specification. Again, the true driver of ex post dispute and ex ante uncertainty is not a lack of linguistic clarity in patent claims.

4. *The Demise of the Construction-to-Save-Validity Doctrine*

Finally, it is worth noting that the interpretation-construction distinction explains both the existence of, and the demise of, the doctrine that claims

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203. This represents a partial change in view for one of us. *See* Chiang, *supra* note 119, at 1125 (arguing that the word "wound" meant all injuries).

204. The prosecution history, although not physically attached to the claims in the manner of the specification, can also provide relevant linguistic context in some circumstances. *See, e.g.*, Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 909 (Fed. Cir. 2004) (noting that a patentee specifically deleted the words "pressure jacket" from many of its claims during prosecution and that this suggested that the resulting claims did not necessarily include a pressure jacket).

205. Kinetic Concepts, Inc. v. Blue Sky Med. Grp., Inc., 554 F.3d 1010, 1019 (Fed. Cir. 2009) (citation omitted).

should be construed narrowly to save their validity.[206] This doctrine says that a claim that is drafted more broadly than is legally allowable will be construed to conform to the legally allowable limit. As the Federal Circuit observed in *Phillips*, this doctrine is almost never openly invoked today.[207]

As an initial matter, it is useful to see that the interpretation-construction distinction is indispensable to comprehending the doctrine. For this doctrine to ever be invoked, there must first be a conceptual two-step: a court must first *interpret* the claim broadly according to its linguistic meaning, and then *construe* it narrowly to save its validity. If it instead says that the claim meaning automatically equals the invention, then the construction-to-save-validity doctrine is a conceptual impossibility: the claim will always cover the invention and there will never be anything to "save."

And this understanding also allows us to see why the construction-to-save-validity doctrine is almost never openly invoked by courts today: it is superfluous. A textualist judge will not *want* this doctrine because it construes claims to depart from the linguistic meaning; an anti-textualist judge does not *need* this doctrine because he can use "normal" claim analysis principles to match the claim scope to the real invention. Moreover, invoking the construction-to-save-validity doctrine is politically costly for the court precisely because it requires the interpretation-construction two-step to be made expressly, which requires the court to explicitly say that the executive branch (the PTO) erred in issuing an overbroad claim that the court must then "save" by construction. The direct method allows the court to camouflage its policy role, and its conflict with executive branch decisions, by saying that the patentee's claim "meant" the narrower meaning all along.

The same insight applies to explain the demise of the "reverse doctrine of equivalents." This doctrine allows a court to *explicitly* hold an accused device to be encompassed by the language of a claim yet non-infringing because it falls outside of the patentee's invention.[208] The doctrine is practically dead,[209] but remains a favorite of law professors.[210]

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206. Turrill v. Mich. S. &c. R.R. Co., 68 U.S. (1 Wall.) 491, 510 (1863). Structurally, this idea is similar to the avoidance canon in statutory construction.

207. Phillips v. AWH Corp., 415 F.3d 1303, 1327 (Fed Cir. 2005) (en banc) (stating that the doctrine has not been applied broadly).

208. Graver Tank & Mfg. Co. v. Linde Air Prods. Co., 339 U.S. 605, 608-09 (1950) (describing the reverse doctrine of equivalents).

209. Roche Palo Alto LLC v. Apotex, Inc., 531 F.3d 1372, 1378 (Fed. Cir. 2008) ("[T]his court has never affirmed a finding of non-infringement under the reverse doctrine of equivalents.").

210. *See, e.g.*, MERGES & DUFFY, *supra* note 25, at 895 ("The Federal Circuit's effective abrogation of the reverse doctrine of equivalents remains intensely controversial . . . ."); Burk & Lemley,

Our analysis explains why the reverse doctrine of equivalents finds no favor among judges. Like the construction-to-save-validity doctrine, the reverse doctrine of equivalents requires judges to explicitly recognize that the language of a claim is broader than the real invention. This is politically costly for judges. There is no motivation for a judge to incur this political cost when the same policy outcome can be achieved by saying that the claim "meant" the narrow scope all along. Once again, without the interpretation-construction distinction, judicial decision-making is less transparent and judicial policy choices are obscured. Not only do scholars end up on a wild goose chase, many do not even realize that they are chasing geese.

Ultimately, we think that, if a court believes that a particular claim's linguistic meaning is overbroad (compared to some conception of the real invention), it would be better and more transparent for that court to either invalidate the claim outright or at least explicitly invoke the construction-to-save-validity doctrine or the reverse doctrine of equivalents, rather than surreptitiously achieving the narrowing result by saying that the claim "meant" the narrower scope all along. It is naïve, however, to merely advocate for greater transparency without appreciating the judicial incentives against it, and we have no good solutions for overcoming those judicial incentives. Our primary contribution is rather to provide a conceptual tool that allows other participants in the patent system to more clearly see when judges are in fact engaged in surreptitious atextual construction, which over the long term can reduce the payoffs of non-transparency and thus make greater formal transparency a more likely result.

D. Disputes over Gap-Filling Construction

Although we think that normative judicial disagreement about *whether* to follow claim text is the primary cause of claim analysis disputes, we do not wish to portray this as the only issue in claim analysis. Sometimes – though we think less often than the literature portrays it – claim analysis disputes arise because the claim language is ambiguous or vague. As we will explain in this Section, however, even some such disputes are disputes over construction.

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supra note 1, at 1773; Robert Merges, *Intellectual Property Rights and Bargaining Breakdown: The Case of Blocking Patents*, 62 TENN. L. REV. 75 (1994).

1. *The Problem of Vagueness*

The primary example of a situation where there is genuine linguistic uncertainty, but the issue is of construction and not of interpretation, is the situation of vagueness. In the conventional literature, it is common to say that claims are too "vague," that such vagueness causes uncertainty in patent rights, and that courts need to do a better job at "interpretation" to reduce the uncertainty.[211] Such phrasing—which at bottom is a restatement of the linguistic indeterminacy thesis—reflects fundamental conceptual errors and causes serious analytical mistakes. Properly understood, a problem of vagueness cannot be resolved using interpretation, and attempts to do so result in incoherent decisions.

Consider, for example, *Power-One, Inc. v. Artesyn Technologies, Inc.*,[212] which involved a claim to a voltage regulator placed "near" a device that was being powered. The term "near" is vague—it naturally raises the question of how near is near enough—and this was the issue in dispute. As an intrinsic matter, this dispute could not have been resolved using interpretation: no amount of linguistic knowledge will tell us the precise line between "near" and "not near." The Federal Circuit, however, tried anyway. It purported to issue an interpretation stating that "the term 'near' means *close to* or *at* the load [i.e., the device being powered]."[213]

As an interpretation of language, there is nothing inaccurate about what the Federal Circuit said. But its "interpretation" didn't engage with the actual issue in dispute: *how* close is close enough? On that question, all the Federal Circuit did was say that "[a] skilled artisan in distributed power systems would know where to place the regulator" such that "low voltage/high currents will not be delivered over *relatively long* distances."[214] In short, on the actual issue in dispute, the Federal Circuit did nothing except replace one term ("near") with another term ("close to") with the exact same linguistic meaning,[215] and essentially kicked the can to a swearing match among expert witnesses that will

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211. *See, e.g.*, BESSEN & MEURER, *supra* note 1, at 56-62.

212. 599 F.3d 1343 (Fed. Cir. 2010).

213. *Id.* at 1349.

214. *Id.* (emphasis added).

215. This phenomenon has not escaped notice, but the authors who have discussed it tend to over-generalize the scope of the phenomenon. *See* Burk & Lemley, *supra* note 1, at 1797-98 ("[C]laim constructions are unlikely to help a judge or jury understand the patent claim because they take simple English words and replace them with more simple English words."); Liivak, *supra* note 43, at 40 (arguing that current claim analysis is broadly a "meaningless exercise" that "replaces [words] with more words").

be adjudicated by a jury. By conceptualizing vagueness as a problem of interpretation, the final result is to abandon reasoned claim analysis in favor of a black-box jury decision on the substantive issue.

Much of the problem with the present conceptualization is that it does not distinguish between vagueness and ambiguity, and instead uses "vagueness" as a label for all linguistic uncertainty (or, even worse, as a label for legal uncertainty).[216] As we have explained above, in the philosophy of language, "vagueness" refers not to all types of linguistic underdeterminacy, but to the specific situation of a word or phrase having fuzzy boundaries (e.g., words such as "near" or "approximately"[217]). This is different from "ambiguity," which refers to situations where words have more than one sense.[218] Conflating the two types of linguistic defects is a conceptual mistake and leads to using the wrong analytical tools: although linguistic tools can generally resolve problems of apparent ambiguity, they simply cannot resolve problems of vagueness. When a particular claim term is vague and the dispute falls within the resulting construction zone, courts must look beyond the claim language to construct a precise line to resolve the dispute.

We should note that this second condition (that the dispute falls within the construction zone) is quite important, and many cases that at first blush look like disputes about vagueness are in fact not. For example, in *Marine Polymer*, the linguistic meaning of "biocompatible" is a material of *low* reactivity.[219] This is vague, because there is a reasonable question of how "low" is low enough. But Judge Lourie's proposed line—that only a material of absolutely zero detectable reactivity is biocompatible—is outside of the realm of reasonable

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216. *See, e.g.*, BESSEN & MEURER, *supra* note 1, at 56-62 (using "vagueness" and "ambiguity" interchangeably). The literature also tends to conflate vagueness and generality. *See, e.g.*, *id.* at 198-200 (arguing that software patent claims are particularly vague because software is abstract); Herbert Hovenkamp, *Innovation and the Domain of Competition Policy*, 60 ALA. L. REV. 103, 120 (2008) (conflating abstraction and vagueness); *see also* Enzo Biochem, Inc. v. Applera Corp., 605 F.3d 1347, 1348 n.2 (Fed. Cir. 2010) (Plager, J., dissenting from denial of panel rehearing) (arguing that broad claims are "inherently ambiguous"). This is erroneous. It is true that general language is often uncertain in its *legal* effect—courts are more likely to engage in atextual construction when the claim is textually very broad—but legal uncertainty is not the same as linguistic uncertainty, and, moreover, not all linguistic uncertainty is caused by vagueness. To take the extreme example, there is nothing vague about a claim to "everything."

217. *See, e.g.*, Young v. Lumenis, Inc., 492 F.3d 1336, 1345-46 (Fed. Cir. 2007) ("near"); Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc., 763 F. Supp. 2d 671, 682-83 (D. Del. 2010) ("approximately").

218. *See supra* Subsection II.B.2.

219. Marine Polymer Techs., Inc. v. HemCon, Inc., 672 F.3d 1350, 1367 (Fed. Cir. 2012) (en banc) (opinion of Dyk, J.).

debate, because the patent's language specifically contemplates biocompatible materials with an elution test score of one (which indicates some detectable reactivity).[220] Thus, although the word "biocompatible" is vague, this vagueness is not what is causing the dispute. Judge Lourie's proposed construction goes outside the zone where language underspecifies—it is like construing a directive to "drive slowly" to require drivers to completely stop. Rather than a good faith disagreement about how to draw lines in the face of vague language, *Marine Polymer* is really a dispute about whether to follow the language at all. The vagueness of the language—if one ever got that far—was a happenstance that had no relevance to the actual dispute.

With the qualifications that not every vague claim causes litigation and uncertainty, and that many broad or apparently ambiguous claims are not vague at all, it remains true that vague claims do exist and do cause uncertainty. But this is not a major part of our analysis, for two reasons. First, there does not appear to be systematic disagreement in the same way as there is in the specification-first versus dictionary-first methodological dispute; rather, the construction of lines to resolve vagueness appears to have no systematic formula or theory of construction.[221] Thus, there is variance and uncertainty, but no one has said anything useful about it because it is an ad hoc, claim-by-claim form of random uncertainty. Second, our main practical point in this Article is that the uncertainty problem is not amenable to the linguistic solutions that have been the focus of the existing literature. The presence of vagueness in patent claims reinforces rather than undermines this point because the problem of constructing lines for applying vague concepts is not amenable to linguistic solutions.

2. *The Problem of Deliberate Ambiguity*

One problem often noted by the conventional literature, for which interpretative solutions are advocated, is the problem of deliberate ambiguity.[222] In order to understand this problem, it must first be noted that patentees have an inbuilt incentive to be disingenuous: to portray the claim

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220. *See supra* text accompanying note 175.

221. *See* Pall Corp. v. Micron Separations, Inc., 66 F.3d 1211, 1217 (Fed. Cir. 1995) ("[T]he word 'about' does not have a universal meaning in patent claims, and . . . the meaning depends on the technological facts of the particular case."); *Young*, 492 F.3d at 1346 (refusing to quantify "near").

222. *See, e.g.*, Genentech, Inc. v. Wellcome Found. Ltd., 29 F.3d 1555, 1564 (Fed. Cir. 1994) (speculating that the patentee may have made "a conscious attempt to create ambiguity about the scope of the claims"); BESSEN & MEURER, *supra* note 1, at 56-57.

narrowly to the PTO examiner (to persuade the examiner to issue the patent) while portraying the same claim broadly to competitors (to deter competition).[223] Patentees accordingly have an incentive to write claim language in an ambiguous manner in order to facilitate this kind of two-faced argument. The literature often argues that such intentional ambiguity is pervasive and causes significant uncertainty in claim analysis.[224]

We acknowledge that intentional patentee ambiguity is a real concern, but two further points are important. First, we think the problem of intentional ambiguity in claim language is less serious than the literature has portrayed it to be.[225] Second, to the extent that the problem occurs, it cannot be solved by better linguistic tools but requires a policy solution.

Let us first provide a concrete example of what deliberate ambiguity is and how it can occur. In *Plant Genetic Systems, N.V. v. DeKalb Genetics Corp.*,[226] the patentee (Plant Genetics) invented a new type of plant seed that was resistant to herbicide. Specifically, Plant Genetics created the new type of seed by infecting it with bacterium and then regenerating it.[227]

Importantly, at the time that it filed the patent, Plant Genetics could only get its infect-and-regenerate technique to work on one type of plant, known as "dicots." It could not successfully regenerate another type of plant, known as "monocots."[228] Despite this, Plant Genetics initially filed a claim that explicitly covered all herbicide-resistant plant seeds. The PTO examiner rejected the broad claim, on the reasoning that Plant Genetics had not taught how to make herbicide-resistant monocots and therefore was not entitled to a patent covering herbicide-resistant monocots.[229] It was only entitled to dicots.

Faced with this rejection, Plant Genetics then amended the claim to state that the seed had to be "susceptible to infection and transformation by

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223. BESSEN & MEURER, *supra* note 1, at 57. This strategy is related to the notion of "acoustic separation." *See* Meir Dan-Cohen, *Decision Rules and Conduct Rules: On Acoustic Separation in Criminal Law*, 97 HARV. L. REV. 625 (1984).

224. BESSEN & MEURER, *supra* note 1, at 57; Burk & Lemley, *supra* note 1, at 1752-53; Seymore, *supra* note 2, at 637-38.

225. A distinction should be drawn between patentees intentionally using ambiguous *language* to make a two-faced argument, and patentees invoking ambiguous *case law* to do so. To the extent that a two-faced argument is based simply on conflicting case law, then interpretative solutions will obviously not work.

226. 315 F.3d 1335 (Fed. Cir. 2003).

227. *Id.* at 1337-38.

228. *Id.* at 1344.

229. *Id.*

Agrobacterium and capable of regeneration thereafter."[230] The examiner clearly understood this new language to limit the claim to dicots. He accordingly granted the patent.[231]

However, a careful reader will note that the amended claim does not literally say "dicots." It literally covers any plant that can be infected and regenerated—the trick is that, *at the time*, the only plants that could be infected and regenerated were dicots. What later happened was that the accused infringer (DeKalb) managed to infect and regenerate monocots and thereby produce the same herbicide resistance.[232] Plant Genetics then sued DeKalb for infringement, on the theory that DeKalb's accused product (a monocot) was literally "susceptible to infection and transformation by Agrobacterium and capable of regeneration thereafter."

Plant Genetics therefore shows that deliberate ambiguity can occur and is a real concern. But we think *Plant Genetics* also illustrates why the problem is less serious at a systemic level than the conventional literature has presented it. Although *Plant Genetics* provides an example of a patentee who succeeded in convincing the examiner to view the claim language differently from its common meaning, we think it also illustrates the intrinsic difficulty of the task: it takes a rather gullible or inattentive examiner to miss the patentee's sleight-of-hand.[233] A more sophisticated examiner might well have questioned why Plant Genetics chose to write such convoluted language ("susceptible to infection and transformation by Agrobacterium and capable of regeneration thereafter") rather than simply write "dicot"; and if the examiner had insisted on explicitly using the word "dicot" in the amended claim, there would have been no dispute later.

In other words, although the conventional literature convinces us that patentees are acting deliberately, it has not convinced us that they regularly succeed in creating deliberate *ambiguities*.[234] For there to be a true ambiguity in the language, the patentee must do more than simply hope or intend different members of the audience to understand the claim in contradictory ways; he must actually create two different understandings (i.e., he must bamboozle the

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230. *Id.* at 1338.

231. *See id.* at 1345 ("We conclude that the plant and seed claims were only allowed because the limitation on transformation and regeneration was added.").

232. *Id.* at 1338.

233. PTO examiners are instructed to adopt a "broadest reasonable interpretation" standard when approaching claim language, in order to guard against patentee tricks. *In re* Yamamoto, 740 F.2d 1569, 1571 (Fed. Cir. 1984).

234. *See supra* text accompanying notes 112-116 (explaining that patentee intent alone does not control the linguistic meaning).

PTO examiner into seeing the claim language differently than other people in the art). The conventional literature has not demonstrated empirically that patentees regularly succeed in bamboozling PTO examiners and competitors to come to different linguistic understandings;[235] it has only pointed to the patentee motivation to attempt such tricks.[236] While we are open to being convinced that deliberate ambiguity is a pervasive problem, the commonly cited evidence of patentee motivation is not enough to prove this assertion.[237]

3. *The Problem of Irreducible Ambiguity*

The problem of deliberate ambiguity that we discussed in the previous subsection can be conceptualized as part of a broader category—problems of irreducible ambiguity. Although most instances of ambiguity in text are only *apparent* (i.e., there is in fact a single correct meaning to the text when viewed in context, but without sufficient context the single meaning is difficult to discern), there are situations where the ambiguity is genuine and irreducible. *Plant Genetics* provides an example of such a situation: where the patentee succeeds in conveying two distinct meanings to different portions of the intended audience (a narrow meaning to the examiner and a broad meaning to competitors), the text has multiple meanings, and no amount of interpretation can overcome this problem. The dispute requires construction to resolve.

Although genuine ambiguity is perhaps more likely to happen when a patentee intentionally seeks to create the result, patentee mal-intent is not an absolute condition for the phenomenon. Irreducible ambiguity occurs whenever the communicative content or linguistic meaning includes multiple

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235. *Compare* BESSEN & MEURER, *supra* note 1, at 57 (asserting that "the Patent Office does a poor job of monitoring the clarity of patent claims"), *with* Mark A. Lemley & Bhaven Sampat, *Is the Patent Office a Rubber Stamp?*, 58 EMORY L.J. 181, 201 (2008) ("The PTO is doing a better job than many people think.").

236. *See supra* text accompanying note 224. It is worth adding that the patentee motivation exists only in a limited range of circumstances. A patentee has the incentive to use ambiguous claim language (instead of clear and broad language) *only* if he fears PTO rejection. But if the PTO is highly incompetent (as the proponents of the deliberate ambiguity theory generally argue), then rejection is not a serious concern, and patentees thus would not attempt deliberate ambiguity. Conversely, if the PTO is highly competent, then a deliberate ambiguity strategy cannot succeed. Only in a Goldilocks range where the PTO is competent enough for patentees to fear rejection, but not competent enough to actually detect patentee chicanery, will deliberate ambiguity be a problem.

237. An additional point is that, even if someone were to empirically prove that PTO examiners are regularly deceived by patentee tricks, the obvious solution would be to hire better PTO examiners. It is not obvious that a more drastic solution (such as abolishing claims) is warranted if the problem is deliberate ambiguity.

senses that cannot be eliminated by resort to context. A possible example of this phenomenon, we think, is *Thorner v. Sony Computer Entertainment America LLC*,[238] which involved a claim to actuators that are "attached" to a game pad (and which cause the game pad to vibrate when playing computer games). The question was whether "attached" referred only to attachments to the exterior of the game pad, or included attachments both inside and outside the game pad. This mattered because, in the accused device, the actuator was embedded within the game pad itself.[239]

As an initial matter, let us clarify that this is not a problem of vagueness but of ambiguity: the issue here is not of blurred boundaries (no one is really asking *how closely* attached is close enough) but of two distinct senses of "attached" that denote two different concepts at different levels of generality. In normal speech, people sometimes use the word "attached" broadly to denote affixing both within or without—for example, what we call an "attachment" to an email is part of the email itself. At other times, however, people use "attached" narrowly to denote an affixation that is external to the object—it would be regarded as quite odd, for example, to say that a person's bones are "attached" to his body. As a matter of ordinary usage, both senses are possible, though we would say that the latter sense is more common.

Looking at the context of the patent document does not clarify this ambiguity, because different passages of the specification point in different directions. One passage of the specification stated: "a vibratory actuator *can be* attached to [the] outer side of the throttle handle."[240] Although at first blush this might be taken to favor reading "attached" to refer only to exterior attachments (especially if one conflates linguistic meaning with the invention), it actually has the opposite effect. The sentence says that an actuator *can* be—and thus by negative implication *does not have to* be—attached to the outer surface.[241]

However, other passages of the specification raise the opposite linguistic inference. For example, the patent specification states that "actuators may be attached to pre-existing rudder pedal units, *or* may be embedded within the plastic or metal structure that comprises the rudder pedals during their

238. 669 F.3d 1362 (Fed. Cir. 2012).

239. *Id.* at 1365.

240. *Id.* at 1367 (alteration in original) (emphasis added).

241. *Id.* at 1368 ("If the applicant had redefined the term 'attached' to mean only 'attached to an outer surface,' then it would have been unnecessary to specify that the attachment was 'to [an] outer surface' in the specification." (alteration in original)).

manufacture."[242] In a mirror reversal of the first passage, at first blush this second passage might be taken to favor reading the claim to cover both exterior attachments and embedded actuators (because the passage seems to foresee embedded actuators as part of the invention). But, as a linguistic matter, this passage is distinguishing between things that are "attached" to the exterior of a game pad and things that are "embedded" within the interior—it uses "attached" to refer only to the former situation and thus implicitly counter-distinguishes it from the latter. The correct linguistic inference from this second passage is therefore that "attached" means only exterior attachments.

In our view, *Thorner* is a genuinely hard case as a matter of interpretation, and reasonable linguistic arguments can be made on both sides. It is even possible to conclude that, ultimately, the patentee was so self-contradictory and confused when using the word "attached" that a skilled artisan reading the patent would have no idea which sense is the correct one.[243] To the extent this is the case, *Thorner* is an illustration of our point that irreducible ambiguity can occur, and require construction to resolve, even without any intentional misconduct on the part of the patentee.

We hasten to add, however, that we do not think that cases of irreducible ambiguity (either intentional or innocent) are very common. Not every situation where language might appear somewhat self-contradictory is a case of irreducible ambiguity; often the balance of linguistic clues will favor one interpretation over the other. For example, in Subsection II.C.3, we explained how we thought the court in *Martek Biosciences Corp. v. Nutrinova Inc.*[244] was correct to interpret "animal" in the particular patent to include humans, because the patentee had an explicit clause that specified the definition of "animal" to include all members of the kingdom of Animalia. We thought the explicit clause outweighed the fact that the broad definition of "animal" caused some of the remaining language in the patent specification to become quite odd, such as where the patentee discussed "raising animals" by feeding them, which is not usually language that one would use in discussing humans.[245] Some amount of internal tension is common in language, and that mere fact does not render text hopelessly indeterminate. Even with *Thorner*, we are not fully convinced that the word "attached" was irreducibly ambiguous. We have a slight preference for an interpretation of "attached" to mean only external

242. U.S. Patent No. 6,422,941 col. 33 ll. 14-17 (filed Sept. 23, 1997) (emphasis added).

243. In real life, we can never be certain that a particular ambiguity is irresolvable, because it is always possible that more context will reveal a single correct meaning.

244. 579 F.3d 1363 (Fed. Cir. 2009).

245. *See supra* notes 101-102 and accompanying text.

attachments, because we believe that is the more common usage of the word in ordinary language and we think that the negative inference created by the "can be" clause is not strong (it is possible to read the clause as alternatively saying that no vibratory actuator is needed at all). In our view, therefore, the balance of linguistic clues in *Thorner* leans slightly in favor of the "external attachment only" interpretation.[246]

V. WHY DISPUTES ARE NOT ABOUT LINGUISTIC MEANING

In the prior Part, we discussed our theory of why claim analysis disputes are primarily over construction. Judges primarily disagree about two things: (1) what the invention is, and (2) if the invention is different from the linguistic meaning of the claim, which one wins? These are essential policy judgments that are not objective or factual.

In contrast, much of the claim construction literature diagnoses the problem as the linguistic meaning of claim text being unclear. In this Part, we provide some rebuttal to these arguments. In the main, our argument will be threefold: First, the leading cases on claim analysis do not involve ambiguous claim terms. Second, the high rate of reversal by the Federal Circuit does not prove linguistic ambiguity. Third, to the extent the existing literature has articulated a clear theory of why claim text is expected to be ambiguous—beyond citing high reversal rates—those articulated theories are not plausible.

A. Our Existing Interpretative Tools Are Adequate

Our first point of note is that, of the important cases involving claim analysis, none involved any significant linguistic ambiguity. We will consider the three most prominent claim analysis cases, namely *Phillips*, *Cybor Corp. v. FAS Technologies, Inc.*,[247] and *Markman v. Westview Instruments, Inc.*[248]

We start again with *Phillips*. As already discussed in detail, the claim term in *Phillips*—"baffle"—was not linguistically ambiguous. The dispute was

246. The court disagreed with our analysis and held that the "plain meaning of the term 'attached' encompasses either an external or internal attachment." *Thorner*, 669 F.3d at 1367. Although we find the court's ultimate decision to be reasonable, we also think its characterization of the meaning as "plain" was an overstatement.

247. 138 F.3d 1448 (Fed. Cir. 1998) (en banc).

248. 52 F.3d 967, 971 (Fed. Cir. 1995) (en banc) (*Markman II*), *aff'd*, 517 U.S. 370 (1996) (*Markman III*).

entirely about whether *the invention* might have been required to deflect bullets and whether the invention or the linguistic meaning should govern.[249]

The same is true of *Cybor*. The patent in *Cybor* concerned a dispenser for industrial liquids, which contained at least two "pumping means" (the term in dispute).[250] There is no realistic ambiguity in the term "pumping means," at least in so far as it clearly covered a *pump*, which was the accused product.[251] The problem was that the patentee had (arguably) represented to the PTO that *the invention* was something that could not draw from an external reservoir, which the accused pump did.[252] A dispute about whether the patentee had misled the PTO, or whether the inventive idea requires an external reservoir, is not a dispute about the semantic definition of "pumping means."

Third, the dispute in *Markman* concerned a patent for a system for managing dry cleaning. The claim recited a system for keeping track of the "inventory" of a dry cleaning store. The dispute concerned whether "inventory" meant the *number of articles* of clothing, or the *dollar value* of the clothing.[253] The defendant's accused device only kept track of the dollar value of clothing, so it infringed under one reading and not the other.[254]

This claim analysis issue concededly represents a problem of interpretation, and not of construction. The word "inventory" was ambiguous: either reading is plausible if the word is taken by itself. To accountants, "inventory" generally means keeping track of cash value, while to a warehouse foreman it generally means keeping track of physical objects. *Markman* thus demonstrates that claim terms can be ambiguous.

But as much as *Markman* demonstrates that linguistic ambiguities can occur, resolving the ambiguity at issue was not very hard, and existing linguistic tools were quite sufficient for the job. A simple reading of the patent specification revealed that it talked a lot about articles of clothing but not about keeping track of cash totals,[255] making it very likely that the word "inventory" referred to physical objects, and not cash values.[256] Every judge who considered

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249. *See supra* Section III.B.

250. *Cybor*, 138 F.3d at 1451.

251. *Id.* at 1452-53.

252. *Id.* at 1456-57.

253. *Markman II*, 52 F.3d at 974-75 (noting that the substantive question turns on "whether the term 'inventory' requires as part of its meaning 'articles of clothing'").

254. *Id.* at 973.

255. U.S. Patent No. Re. 33,054 (filed Aug. 28, 1987).

256. It is important to distinguish our usage of the specification from that of the anti-textualists. We are making an inference based on ordinary English usage conventions, not based on the

the question agreed with this interpretation.[257] The only dispute in the case was over the procedural question of *who* decides: namely, whether disputes over claim analysis should be adjudicated by judges or juries.[258] Once that procedural question was decided (the Supreme Court held that judges should perform claim analysis), the correct interpretation of "inventory" was treated largely as an afterthought.[259] Because the interpretative issue was simple and unanimously resolved using existing interpretative tools, *Markman* does not provide strong support for the linguistic indeterminacy thesis. In fact, it undermines it.

To be sure, we have not done a systematic study of all litigated cases – such a study is not practically feasible. As such, there is always the possibility that the supposedly "canonical" cases that we have analyzed are not in fact representative of the broader claim analysis debate; and a reader can likely point to counter-examples of cases[260] where an ambiguity is both (a) difficult to resolve and (b) the genuine cause of disagreement.[261] But we do think our sample is sufficiently suggestive to cast significant doubt on the view that linguistic ambiguity in patent claims is pervasive and causes an epidemic of claim analysis disputes, especially because the canonical cases presumably reflect the courts' own judgments of what constitute representative cases.

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patentee's inventive contribution. As a matter of common experience, any document that talks a lot about physical objects, and spends no time talking about cash totals, probably uses "inventory" in the sense of physical objects. In this manner, the general subject matter of the patent (sometimes known as "the invention") can sometimes provide relevant linguistic context. But this is very different from an argument that "inventory" must mean articles of clothing because the patentee only conceived a system to keep track of physical articles and thus is not legally entitled to claim more, which is what anti-textualists usually mean when they argue for interpreting claims according to the "invention." *See* Winans v. Denmead, 56 U.S. 330, 341 (1853) (holding that claims should be interpreted according to what the patentee has a "just right" to cover).

257. Markman v. Westview Instruments, Inc., 772 F. Supp. 1535, 1537 (E.D. Pa. 1991) (*Markman I*) ("Inventory means articles of clothing, not just dollars."); *Markman II*, 52 F.3d at 982 (holding the same); *Markman II*, 52 F.3d at 989 (Mayer, J., concurring) (arguing for deference to juries); *Markman II*, 52 F.3d at 998 (Rader, J., concurring) (agreeing that "cash transaction totals are not 'inventory'"); *Markman II*, 52 F.3d at 1026 (Newman, J., dissenting) (arguing for a jury determination); *Markman III*, 517 U.S. at 391 (affirming Federal Circuit).

258. *Markman III*, 517 U.S. at 372 ("The question here is whether the interpretation of a so-called patent claim . . . is a matter of law reserved entirely for the court.").

259. *Id.* at 391 (affirming the judgment without considering the interpretative dispute).

260. *See, e.g.*, *supra* Subsection IV.D.3 (discussing *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362 (Fed. Cir. 2012)).

261. We should note that these are separate conditions. Our argument does not require interpretation to be easy, it merely requires interpretation to not be the real issue in dispute.

B. Reversal Rates Do Not Prove Linguistic Ambiguity

More than anything else, the existing literature has relied on the high rate at which the Federal Circuit reverses in claim analysis cases as ipso facto proof that claims are linguistically ambiguous.[262] This is wrong.

As an initial matter, relying on reversal rates as a measure of uncertainty has a well-known selection problem: the most uncertain cases are the most likely to end up in litigation.[263] But our contention is more fundamental and does not depend on the selection effect. The existing literature is wrong to infer linguistic uncertainty from reversal rates because reversal rates speak only to *legal* uncertainty and not *linguistic* uncertainty. The fact that judges disagree about legal outcomes does not prove that the uncertainty has linguistic roots. Legal uncertainty in claim analysis can arise either because (1) judges are all faithful textualists but the linguistic meaning is ambiguous, or (2) some judges are not faithful textualists and therefore don't follow the linguistic meaning. What the existing literature explicitly or implicitly assumes is some version of (1). What we have shown in Part IV is that this is simply not the case. The existing uncertainty in patent law—and the high reversal rate—occurs not because judges are all textualists but disagree over the correct linguistic meaning, but because some judges are *not* textualists and *don't follow* the linguistic meaning. When a textualist district judge meets an anti-textualist appellate panel (or vice versa), a reversal can occur without any linguistic ambiguity whatsoever.

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262. *See, e.g.*, Burk, *supra* note 2, at 116-17 (arguing that the reversal rate indicates that "plain meaning is not so plain"); Burk & Lemley, *supra* note 1, at 1744-45 (arguing that the prospect of reversal makes claim construction inherently uncertain); Chen, *supra* note 48, at 1178-80 (arguing that judicial disagreement proves "as a matter of logic" that patent claims are . . . characterized by multiple reasonable interpretations rather than a single true meaning"); Liivak, *supra* note 43, at 37 (arguing that "[c]laim interpretation is just not a uniform process"); Menell et al., *supra* note 1, at 715-16 (citing the high reversal rate for claim construction rulings); Kimberly A. Moore, *Are District Court Judges Equipped to Resolve Patent Cases?*, 15 HARV. J.L. & TECH. 1, 4 (2001) (arguing for expedited appeal for patent claims given the rate of reversal).

263. Richard S. Gruner, *How High Is Too High?: Reflections on the Sources of Claim Construction Reversal Rates at the Federal Circuit*, 43 LOY. L.A. L. REV. 981, 985 (2010). *See generally* George L. Priest & Benjamin Klein, *The Selection of Disputes for Litigation*, 13 J. LEGAL STUD. 1 (1984) (describing selection effects).

C. *Theories of Linguistic Ambiguity Are Not Plausible*

Beyond the fallacious assertion that high reversal rates prove linguistic ambiguity, scholars have articulated three more detailed theories of why claims would be linguistically ambiguous. In the Subsections below, we will address each of these theories.

1. *The Scientific Jargon Theory*

The most frequently given reason for why patent claims are expected to be linguistically uncertain is that patent claims involve highly technical language,[264] which supposedly can only be understood by a person of skill in the art.[265] In many ways, this is identical to saying that the language is uncertain because it is unfamiliar—text written in scientific jargon is often compared to a foreign language like Greek. And we concede the possibility that this is a cause of uncertainty. Yet for three reasons we are skeptical that this is a major explanation.

The first reason is that judges seem to have the same vehement claim analysis disputes even about the simplest non-scientific terms. As Dan Burk and Mark Lemley note, there are disagreements about terms such as "'a,' 'or,' 'to,' 'including,' and 'through.'"[266] This suggests that some reason for disagreement that equally applies to simple terms—e.g., policy fights about the invention—is more responsible for the uncertainty.

The second reason—a mirror point of the first—is that disputes over complex terms don't seem to happen very often. In the highest "ranked" claim analysis cases (i.e., those decided by the Supreme Court or the en banc Federal Circuit), the disputed terms were respectively "manufacture,"[267] "inventory,"[268]

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264. *See, e.g.*, Lee, *supra* note 180, at 29-30 (arguing that patent claim interpretation is "cognitively demanding"); Moore, *supra* note 262, at 3-4 (questioning judges' ability to determine the meaning of highly technical patent terms); Rai, *supra* note 49, at 881-82 (noting that "the typical judge is unlikely to be a person skilled in the relevant art"); John Shepard Wiley, Jr., *Taming Patent: Six Steps for Surviving Scary Patent Cases*, 50 UCLA L. REV. 1413, 1475 (2003) (arguing that patent cases require "technological decisions").

265. Nard, *supra* note 1, at 6 ("[P]atents are written by and for persons having ordinary skill in the art."). The scientific jargon theory should be distinguished from another kind of argument, which is that claims are written in *legally* complex language. *See* Fromer, *supra* note 117, at 560 (noting that those "trained in the relevant art" often find legal jargon incomprehensible). Legally complex language is familiar to judges.

266. Burk & Lemley, *supra* note 1, at 1744 (collecting citations).

267. Merrill v. Yeomans, 94 U.S. 568, 570-74 (1876).

268. *Markman III*, 517 U.S. at 375.

"pumping means,"[269] "baffle,"[270] and "biocompatible."[271] Of these, only "biocompatible" can be plausibly characterized as scientific jargon—and nobody in *Marine Polymer* suggested that there was a specialized definition of "biocompatible" that was known to scientists but not lay judges.[272] In sum, courts can have vehement fights about non-scientific terms, and they seem to be fighting primarily about non-scientific terms. Although these canonical cases might be unrepresentative of the broader population of litigated patent cases, we do think this sample is sufficiently suggestive to cast doubt on the scientific jargon theory, and we are not aware of any contrary empirical study that shows disputes over scientific terms to be common. The only article that systematically considers the question reaches the same conclusion that we do.[273]

Our third reason for skepticism towards the scientific jargon theory is that judges already have enormous resources at their disposal to educate themselves about scientific terms. Quite obviously, judges have paid experts and the best technical dictionaries that the parties' money can buy. Even if we are concerned that paid experts might be biased, district courts can (and do) appoint technical advisors for themselves,[274] or alternatively can delegate claim analysis disputes to technically trained special masters to decide.[275] Yet none of these tools seem to have any perceptible effect on the claim uncertainty problem, as evidenced by the ever-increasing number of articles and judicial cases complaining about the problem and suggesting new solutions.[276] If a sick patient has received

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269. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456-60 (Fed. Cir. 1998) (en banc).

270. Phillips v. AWH Corp., 415 F.3d 1303, 1309 (Fed. Cir. 2005) (en banc).

271. Marine Polymer Techs., Inc. v. HemCon, Inc., 672 F.3d 1350 (Fed. Cir. 2012) (en banc).

272. *See id.* at 1358 (opinion of Lourie, J.) ("[T]he district court did not find that 'biocompatible' had a plain and ordinary meaning to one skilled in the art."); *id.* at 1367 (opinion of Dyk, J.) (arguing only that "the specification defines 'biocompatible'"). As we explained in Subsection IV.B.3, the real cause of dispute in *Marine Polymer* was a policy disagreement.

273. Osenga, *supra* note 3, at 90 & n.151 ("Most of the terms the court construes are not technical terms.").

274. Nard, *supra* note 1, at 66 & n.273; *see also* TechSearch, L.L.C. v. Intel Corp., 286 F.3d 1360, 1377-81 (Fed. Cir. 2002) (approving the use of a technical advisor for claim construction).

275. *See* Jay P. Kesan & Gwendolyn G. Ball, *A Study of the Role and Impact of Special Masters in Patent Cases*, FED. JUD. CENTER (2009), http://www.fjc.gov/public/pdf.nsf/lookup/specmapa.pdf/$file/specmapa.pdf.

276. *See supra* notes 1-9. In a recent article, Jonas Anderson and Peter Menell find that the reversal rate has declined after *Phillips*, Anderson & Menell, *supra* note 48, but they attribute this to the Federal Circuit giving "informal deference" to district courts rather than to judges actually getting better at claim analysis. In another empirical study, Polk Wagner and Lee Petherbridge find that "the *Phillips* opinion . . . has utterly failed in advancing the Federal

numerous treatments based on a diagnosis, with no perceptible benefit, a good doctor should probably rethink the initial diagnosis. Our argument is the same regarding the scientific jargon diagnosis for claim uncertainty.

2. The Evolving Language Theory

The second theory of why claims are ambiguous, articulated by Mark Lemley, is that language evolves and thus old terms become hard to understand. According to Lemley:

> [T]he meaning of particular terms . . . will frequently change over time. Indeed, the risk of change in the meaning of terms over time is particularly great in patent law, because patents necessarily involve new ideas, and the process of assigning terms to describe those new ideas is not static.[277]

The problem with this evolving language theory of linguistic uncertainty is that such evolution almost never happens in the twenty-year duration of a patent,[278] *if* we have a proper understanding of what constitutes linguistic evolution. In our definition, the linguistic meaning of a word changes—and thus becomes potentially uncertain—if the word comes to be used in a different sense or becomes archaic and falls out of common knowledge. A good example is the phrase "domestic violence," which appears in Article IV, Section 4 of the Constitution. In 1789, the term primarily meant riots and insurrections. Today, the phrase primarily refers to spousal abuse. A modern reader must therefore engage in some interpretative heavy-lifting to avoid getting the wrong linguistic meaning. That is, the interpreter must cast aside the modern understanding of "domestic violence" and see it in the archaic riots-and-insurrections sense of the phrase because that is what the original audience would have understood. This phenomenon is sometimes called "linguistic drift," and it usually takes decades or centuries to occur.[279]

Circuit's management of claim construction doctrine and has most likely made it worse." R. Polk Wagner & Lee Petherbridge, *Did* Phillips *Change Anything? Empirical Analysis of the Federal Circuit's Claim Construction Jurisprudence*, *in* INTELLECTUAL PROPERTY AND THE COMMON LAW, *supra* note 2, at 123, 146.

277. Mark A. Lemley, *The Changing Meaning of Patent Claim Terms*, 104 MICH. L. REV. 101, 102 (2005).

278. 35 U.S.C. § 154(a)(2) (2006).

279. *See* EDWARD SAPIR, LANGUAGE: AN INTRODUCTION TO THE STUDY OF SPEECH 165-66 (1921); SOL STEINMETZ, SEMANTIC ANTICS: HOW AND WHY WORDS CHANGE MEANING (2008).

This is not the kind of linguistic evolution that Lemley has in mind. Rather, Lemley is arguing that *the set of real-world objects* that are covered by a particular claim expands over time. To see this, consider the leading case that Lemley cites as a demonstration of his version of the problem: *SuperGuide Corp. v. DirecTV Enterprises, Inc.*[280]

In *SuperGuide*, the patent related to television programming, and the claim recited receiving television programming via "regularly received television signals." In 1985, when the patent was filed, all television signals were analog. By 2004, most television signals had changed to digital. The question was whether a "regularly received television signal" covered a modern digital signal. The court held that it did. According to Lemley, this holding shows that the "meaning" of "regularly received television signal" in the claim changed between 1985 and 2004.[281]

But it is important to see that the *linguistic* meaning of "regularly received television signal" was constant. The linguistic meaning of "regularly received television signal" is a television signal that is usually received by users. That was its meaning in 1985, and that was its meaning in 2004. What changed was the set of real-world objects that fit within the description—they have changed from analog signals to digital signals.[282] This is not a change in linguistic meaning, and it cannot be redressed by better interpretative strategy and tools.

Consider an analogy. The Constitution allows Congress to regulate commerce among the "several States." The linguistic meaning of "States" has not changed between 1789 and 2013; it refers to the semi-autonomous political subdivisions that comprise this country. But the set of real-world objects that fit within the definition has changed—we have expanded from thirteen States to fifty. Nobody thinks that expanding from thirteen States to fifty is a change in the meaning of "State," or that this causes linguistic uncertainty. Likewise, nobody should think that the television industry changing from analog signals to digital signals represents a change to the linguistic meaning of "regularly received television signals," or that it somehow illustrates linguistic ambiguity in claim text. It does not.[283]

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280. 358 F.3d 870 (Fed. Cir. 2004).

281. Lemley, *supra* note 277, at 104.

282. *See* Kevin Emerson Collins, *The Reach of Literal Claim Scope into After-Arising Technology: On Thing Construction and the Meaning of Meaning*, 41 CONN. L. REV. 493, 537 (2008) (distinguishing between "thing-scope" and "meaning-scope").

283. The distinction between "linguistic meaning" and "the set of real-world objects that fit within the definition" is based on the sense-reference distinction in the philosophy of language. The distinction is from Gottlob Frege. Gottlob Frege, *On Sense and Reference*, 57 PHIL. REV. 209 (Max Black trans., 1948) (1892). For a discussion in the context of the

Yet Lemley is correct in saying that cases like *SuperGuide* cause uncertainty in a more general sense. Judge Michel disagreed with the majority and argued for limiting the patentee to analog television signals. Other cases similarly support the proposition that a patent claim may only cover the technology that was in use at the time of a patent's filing.[284] Patentees and competitors trying to ascertain their legal rights have difficulty doing so ahead of time.

Our point is that this uncertainty does not have linguistic roots. Judge Michel argued in *SuperGuide*:

> I . . . cannot extend the literal scope of the claims to systems for receiving signal technology that was not . . . conceived of and reduced to practice by these inventors, much less described and enabled in their '578 patent application filed in 1985.[285]

In other words, Judge Michel argued that a system using digital signals was not what the patentee invented. Once again, the disagreement is not what the claim language means as a semantic matter, but that the majority and Judge Michel had different theories of construction and different policy judgments about the desirability of allowing patentees to cover subsequently developed technology.

3. The Radical Indeterminacy Theory

The third theory of why claim language would be linguistically unclear is not limited to patent law but is more general. It says that *all* text is inherently unclear. This argument was most famously made by Chief Justice Traynor in *Pacific Gas & Electric Co. v. G.W. Thomas Drayage & Rigging Co.*,[286] a case that appears in virtually every contracts casebook. The same argument receives its canonical expression in patent law in *Autogiro Co. of America v. United States*[287]:

> Claims cannot be clear and unambiguous on their face. A comparison must exist. The lucidity of a claim is determined in light of what ideas it

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interpretation of legal texts, see Christopher R. Green, *"This Constitution": Constitutional Indexicals as a Basis for Textualist Semi-Originalism*, 84 NOTRE DAME L. REV. 1607, 1624-28 (2009).

284. PC Connector Solutions LLC v. SmartDisk Corp., 406 F.3d 1359, 1363 (Fed. Cir. 2005); Kopykake Enters., Inc. v. Lucks Co., 264 F.3d 1377, 1383-84 (Fed. Cir. 2001).

285. *SuperGuide*, 358 F.3d at 897-98 (Michel, J., concurring in the result).

286. 442 P.2d 641 (Cal. 1968).

287. 384 F.2d 391 (Ct. Cl. 1967).

> is trying to convey. *Only by knowing the idea, can one decide how much shadow encumbers the reality.*
>
> . . . .
>
> The inability of words to achieve precision is none the less extant with patent claims than it is with statutes. The problem is likely more acute with claims. . . . *An invention* exists most importantly as a tangible structure or a series of drawings. A verbal portrayal is usually an afterthought written to satisfy the requirements of patent law. This conversion of machine to words allows for unintended idea gaps which cannot be satisfactorily filled.[288]

It is important to clearly state why this argument is wrong. As an initial matter, we can agree with the statement that legal texts, including patent claims, are rarely "clear and unambiguous *on their face*." As we discussed above, discerning the linguistic meaning requires evidence, and that evidence can come from other parts of the document, such as the specification, as well as outside the document from dictionaries and experts. Without looking at the specification in *Kinetic Concepts*, one would not know that the word "wound" in that claim in fact meant skin injuries and not injuries generally.[289]

But this is not what opinions like *Autogiro* end up saying or doing. What *Autogiro* is saying is that unless one first knows "the idea" that the claim is trying to convey, one cannot know what the claim says.[290] In the next breath, it equates "the idea" that the claim is supposedly *trying* to convey with the idea that it *should* be conveying, i.e., the invention. What *Autogiro* boils down to is saying that the claim is always ambiguous until one knows what the invention is, and one should therefore look for the invention (in the specification and elsewhere) in order to define the claim. This rhetorical jujitsu transforms the test into the standard anti-textualist position.

The bottom line is that the *Autogiro* formulation is not showing the linguistic ambiguity of text. It merely *asserts* that text is ambiguous and then goes looking for the invention instead. It does not realize that these are completely distinct things. And the resulting "ambiguities" it finds—such as that the text might not cover the real invention—are not linguistic ambiguities. They are simply reflections of the fact that the linguistic meaning of the claim

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288. *Id.* at 396-97 (emphasis added).

289. *See supra* text accompanying notes 198-203.

290. This is already backwards, because the claim language is the *best evidence* of what ideas it is trying to convey. To say that one must know the idea before one can understand language is tantamount to saying that communication is impossible without mind-reading. But this conceptual mistake is less important than the court's next move.

and the patentee's invention are different things. Properly understood, there is no linguistic ambiguity here. The only reason that people conclude otherwise is because they conflate the linguistic meaning with the invention.

VI. IMPLICATIONS

As we will explain below, we see three major payoffs to bringing the interpretation-construction distinction to patent law. First, once we distinguish between linguistic uncertainty and legal uncertainty, it becomes clear that linguistic uncertainty is not what is causing disputes in patent law, at least in the main. In Section VI.A we argue that the implication of this insight is that better linguistic tools—which scholars and judges have devoted much effort to developing—will not help much to resolve the uncertainty problem.

Second, as we have argued in previous Parts, the most significant source of uncertainty in patent law today is policy disagreement among judges. We think the interpretation-construction distinction provides a useful conceptual tool to *diagnose* such policy disagreement as the cause of uncertainty and also a better conceptual framework within which to *conduct* these policy debates. Some scholars in the existing literature seem to—at least on some level—appreciate the role of policy disagreement in causing uncertainty in claim analysis, and accordingly make what are really policy arguments in favor of a particular claim construction methodology (generally speaking, an anti-textualist one). Yet the dominance of the linguistic indeterminacy thesis means that even these scholars express their policy arguments under the guise of solutions to linguistic indeterminacy: these scholars almost always argue that courts should consider policy because claim language is pervasively "ambiguous." As we will explain in Section VI.B, we think such linguistic indeterminacy arguments are both factually unsound and logically unnecessary. At the same time, we reemphasize that we do not contend that language is always clear or always resolves disputes; in Section VI.C, we explain how language can be underdeterminate and what courts should do in such situations. Our most fundamental contribution is not to say how any specific issue should be resolved, but to say that the interpretation-construction distinction provides a conceptual tool to explain both the capabilities and limitations of language, and provides a conceptual framework within which both linguistic and nonlinguistic arguments can be made cleanly.

Third, by conceptually separating factual questions of linguistic meaning from normative questions of legal effect, the interpretation-construction distinction provides a conceptual framework to discuss the perennial issue of the institutional allocation of claim analysis. This question has recently been subject to heightened attention due to the Federal Circuit's en banc

consideration of the issue in *Lighting Ballast Control LLC v. Phillips Electronics North America Corp.*[291] In Section VI.D we will explain how the interpretation-construction distinction provides a better way to frame the issue, and how we think the issue should be resolved.

A. Linguistic Tools and Claim Interpretation

Our most important claim in this Article is that, contrary to the linguistic indeterminacy thesis, the uncertainty in patent rights is generally not caused by ambiguity in claim language. Rather, we believe that the uncertainty problem is largely attributable to policy disagreement among judges.[292] We are not claiming that ambiguity and vagueness *never* occur or cause disputes, but we are saying that they are much rarer than the literature tends to assume. At least in the most prominent cases at the Supreme Court and the Federal Circuit, the dispute has not centered on a disagreement over what the linguistic meaning *is*, nor over how to fill in *gaps* in the linguistic meaning, but over whether the linguistic meaning should *govern*.

The implication that follows is rather pessimistic. What we have shown is that the large body of literature that seeks to develop better linguistic tools for interpreting claims has been fundamentally misguided. Contrary to the usual rhetoric, the claim analysis debate is not a debate between two camps of judges with good faith disagreements about linguistic meaning, but who still share the linguistic meaning as a common lodestar. Rather, the claim analysis debate is one over methodology—some judges are simply not following the linguistic meaning.[293] Better linguistic tools, to more accurately discern the linguistic meaning, cannot resolve this fundamental methodological disagreement. To the extent that scholars and judges have been trying to clarify linguistic ambiguities and debating the best linguistic tools for the job (rather than fighting a proxy war over policy under the guise of linguistics), those efforts have been largely in vain and will continue to be unproductive.

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291. No. 2012-1014 (Fed. Cir. argued Sept. 13, 2013).

292. We should note that our fundamental claim—that better linguistic tools will not help—still holds even if claims are pervasively *vague*, even though we do not believe this to be the case. Vagueness, unlike ambiguity, cannot be solved by better interpretative tools.

293. *See* Wagner & Petherbridge, *supra* note 276, at 147 (finding a "very substantial split in methodological approach").

B. Policy Arguments and Claim Construction

Lest we be misunderstood, we are not saying that no one in the existing literature has appreciated the role of policy arguments in claim analysis disputes. In our eyes, numerous scholarly proposals for courts to give greater weight to the real invention in claim construction, including most prominently Dan Burk and Mark Lemley's proposal for courts to abolish claims altogether, are really about policy and not linguistics.[294] That is, we think the best argument in favor of such anti-textualism in claim construction is that following patentee-written claim text is likely to result in substantively overbroad patent monopolies, because patentees are likely to write claims in a self-serving manner. Having courts ignore claim text in favor of enforcing a neutral judge's conception of the real invention would likely result in less biased (and narrower) patent scope, and this is arguably a better policy outcome.[295] Not only do we think this is the best argument in favor of the anti-textualist approach, we think it is the real intuition that underlies anti-textualist proposals.

Yet no anti-textualist scholar ever does more than briefly allude to this argument.[296] The reason for the omission is obvious: the logical conclusion of the argument is that patent claims should be ignored even if the text is linguistically clear. Arguing that judges should ignore clear text is considered taboo in our culture,[297] especially because the linguistic indeterminacy thesis is so deeply entrenched in patent law (the flip side of saying that all of our problems come from unclear text is a reflexive assumption that clear text is inherently good). A scholar who made the argument explicitly would damage his own credibility.

For this reason, anti-textualists typically present their argument in a linguistic guise: they argue that courts should look for the real invention

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294. *See, e.g.*, Burk, *supra* note 2; Burk & Lemley, *supra* note 1; Cotropia, *supra* note 45; Lee, *supra* note 2; Liivak, *supra* note 43.

295. Though we emphasize that this is contestable. As one of us has explained elsewhere, courts are unlikely to have the information to determine the correct scope of a patent. Tun-Jen Chiang, *Forcing Patentee Claims* (George Mason Univ. Law & Econ. Research Paper Series, Paper No. 12-51, 2012), http://ssrn.com/abstract=2130961. Having courts follow biased claims, at least to some extent, may be better than having courts attempt blind stabs at the optimal patent scope.

296. *See supra* note 96 and accompanying text.

297. As a telling example, Craig Allen Nard labels a claim-centered approach as "hypertextualism" and an invention-centered approach (which he strongly favors) as "pragmatic textualism." Nard, *supra* note 1, at 4-6. He takes pains to portray his preferred approach as still "embracing the importance of textual fidelity." *Id.* at 6.

because, when claim language is ambiguous, courts *must* look beyond the text.[298] This framing serves as a shield against charges that their proposals amount to having courts ignore clear text in favor of judge-imposed policy.[299] In a second step, however, anti-textualists then argue that claims are *always* ambiguous,[300] so the final result is that courts should always look for the real invention.[301] The upshot is that the linguistic framing achieves the same substantive result, while giving anti-textualists two rhetorical advantages: First, they avoid the taboo of saying that courts should ignore clear text.[302] Second, they avoid having to acknowledge the normative contestability of their

298. *See, e.g.*, Burk & Lemley, *supra* note 37, at 32 (arguing that courts should "construe patent claims narrowly and in light of the actual invention when the claim terms are ambiguous"); Lee, *supra* note 2, at 105 ("Where the *Phillips* methodology does not yield a clear interpretation, I suggest that policy considerations aimed at promoting technological progress should inform claim construction."); Liivak, *supra* note 43, at 40 ("In the cult's view, [claims] are just the exclusive rights granted by a patent. That definition gives very few contextual clues as to the distinction between correct and incorrect interpretations.").

299. Lee, *supra* note 2, at 113 ("[I]t bears emphasizing that under my proposal, substantive and policy considerations only come into play when traditional claim construction does not yield a clear answer; given the void that *some* interpretive gloss must fill, the charge of 'redrafting' claims seems inapposite."); *see also* Burk, *supra* note 2, at 119 (arguing that "[t]he text remains central" to his approach and "it is hardly a recipe for judicial activism"); Liivak, *supra* note 43, at 42 ("Claims can and do play a central role in this system."); Nard, *supra* note 1, at 10 ("This emphasis on textual internal coherence is central to pragmatic textualism . . . .").

300. *See* Burk & Lemley, *supra* note 1, at 1745 & n.10 ("[C]laim construction may be inherently indeterminate." (quoting Schwartz, *supra* note 1, at 259)); *id.* ("[T]he nature of language makes it impossible to capture the essence of a thing in a patent application." (quoting Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 731 (2002))); Burk & Lemley, *supra* note 37, at 52 (arguing that "the words of claims" are indeterminate); Lee, *supra* note 2, at 102-04, 114 (arguing that claim interpretation is "inherently difficult to perform," "fraught with indeterminacy," "highly indeterminate," and has "well-known difficulties"); Liivak, *supra* note 43, at 40-42 (arguing that claim text alone is "meaningless"); *see also* Nard, *supra* note 1, at 57 ("The hypertextualist philosophy relies too heavily on the power of the word to convey meaning with clarity.").

301. Burk & Lemley, *supra* note 1, at 1784-85 (suggesting that patent law should abolish claims); Burk & Lemley, *supra* note 37, at 30 (arguing that because there is "no such thing" as a plain meaning to claims, courts should instead "start with the patentee's invention itself, construing patent claims narrowly and in light of the actual invention when the claim terms are ambiguous").

302. We are not suggesting that anti-textualists consciously manipulate their argument. The taboo against ignoring clear text is internalized into the lawyer psyche to the extent that it often requires no conscious awareness. Our point is that, even if unconscious, the anti-textualist move piggybacks on this political dynamic.

policy prescriptions.[303] Instead of defending the normative merits of their approach, anti-textualists declare in a Borg-like manner that textualism is hopeless, anti-textualism is inevitable, and resistance is futile.[304]

Although we understand the rhetorical usefulness of this move, we think it is problematic for two reasons. First, the approach relies on a logical fallacy, namely collapsing the interpretation-construction distinction. The standard anti-textualist move requires endorsing the linguistic indeterminacy thesis and portraying claim text as pervasively ambiguous, but the "ambiguities" that are commonly cited in the literature are not linguistic but legal.[305] The result, once viewed through the lens of the interpretation-construction distinction, is a deep irony: the uncertainty over claim construction arises because judges disagree about whether textualism or anti-textualism is the better methodology, and anti-textualist scholars are citing *this very disagreement* as "proof" that anti-textualism is not only the better methodology but an inevitable one.[306] A better example of a self-fulfilling prophecy cannot be found.

Second, the approach dodges the real debate. If—as we think is the case—the real argument in favor of a look-for-the-real-invention approach is that it results in what anti-textualists view as better policy outcomes, then this argument should be made explicitly. Such candor is more conceptually sound

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303. Of course, the substantive debates at issue here—textualism versus anti-textualism, broad patents versus narrow patents—are debates that have eluded consensus for centuries. We understand the desire to avoid the quagmire. Our point is that these are the real debates that underlie claim construction disputes. They cannot be avoided.

304. *See* Burk, *supra* note 2, at 119 (arguing that anti-textualism simply "recognizes the latitude judges have, that originalism serves to conceal"); Burk & Lemley, *supra* note 1, at 1791 (stating that the "simple answer" to textualist objections is that textualism in patent law has already "failed catastrophically"); Burk & Lemley, *supra* note 37, at 54 ("[W]here indeterminacy exists—*as it inevitably will*—courts will be required to shape the appropriate boundary . . . ." (emphasis added)).

305. *See, e.g.*, Burk, *supra* note 2, at 116-17 (citing high reversal rate); Burk & Lemley, *supra* note 1, at 1744-45 (citing legal uncertainty over construction of words such as "'a,' 'or,' 'to,' 'including,' and 'through'"). *See also supra* Section V.B.

306. The anti-textualism-is-inevitable meme has another logical defect, which is that the very act of arguing for inevitability provides evidence that the inevitability claim is false. If anti-textualism were truly inevitable, then there would be no need for anyone to write articles arguing for judges to adopt it. *See* Eric A. Posner & Adrian Vermeule, *Inside or Outside the System?*, 81 U. CHI. L. REV. (forthcoming), http://ssrn.com/abstract=2232153 (calling this the inside/outside fallacy); *see also* Lawrence B. Solum, *Constitutional Possibilities*, 83 IND. L.J. 307, 329 (2008) (discussing the inside/outside fallacy as a problem of double standards for possibility). In one passage of their article, Burk and Lemley seem to show awareness of this problem and frame their argument as a call for transparency, Burk & Lemley, *supra* note 1, at 1783, but their article as a whole cannot be reasonably read as so limited.

and makes for more productive scholarship. Right now, textualists are not being called upon to normatively defend their reliance on patentee-written claim text because anti-textualist scholars do not overtly question it; they instead devote most of their energy to arguing the fallacious proposition that text *cannot* be followed because it is indeterminate. Our goal is to redirect the debate away from this plainly wrong proposition to what we regard as the real—and far more interesting—policy issue. Textualists should explicitly make the policy case in favor of textualism (and broader patents); and anti-textualists should explicitly make the policy case in favor of anti-textualism (and narrower patents).[307] The interpretation-construction distinction helps create a climate for such candor by exposing this policy disagreement as the real underlying debate. To the extent that we make the anti-textualist case more politically difficult by removing the linguistic varnish from their argument (in a political environment where judges are unlikely to accept unvarnished anti-textualist arguments), we regard this as an incidental effect. We do not think it undermines our claim to neutrality on the substantive policy issue.

C. *The Resolution of Vagueness*

Although we think that the standard anti-textualist argument regarding the radical indeterminacy of text—and its follow-up implication that courts not only *should*, but inevitably *must*, look beyond text—is seriously mistaken, we should note that there is a limited set of circumstances where it has validity. Specifically, as we explained in Subsection IV.D.1 where a claim is vague and the dispute falls within the construction zone, courts indeed must look beyond the text.

The problem here is that anti-textualists over-generalize the extent of this phenomenon, by characterizing this as a feature of *all* claim analysis.[308] That is not correct.

The implication of our analysis for the vagueness problem is twofold. In situations of genuine vagueness, where disputes fall within the construction

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307. In theory, textualism does not necessarily lead to broader patents, since a court could construe the claim as written and then invalidate it. But, given the structural bias against invalidity, a textualist approach to claim construction will generally result in broader patent scope. *See supra* note 95.

308. *See* Burk & Lemley, *supra* note 1, at 1797-98 ("[C]laim constructions are unlikely to help a judge or jury understand the patent claim because they take simple English words and replace them with more simple English words."); Liivak, *supra* note 43, at 40 (arguing that current claim analysis is generally a "meaningless exercise").

zone, courts should recognize that claim text cannot itself provide all the answers, and thus policy considerations will necessarily come into play. Failure to acknowledge this fact won't make it go away; it will only result in courts issuing empty "interpretations" that leave the substantive decision-making to black-box juries.[309] On the other hand, one should be careful not to overstate how frequently disputes are actually caused by vagueness. The most prominent examples in the case law (e.g., *Phillips* and *Markman*) are not true examples of this type of problem.[310] The examples provided by anti-textualist scholars also generally miss the mark.[311] Thus, although we agree with the anti-textualists as to the resolution of vagueness when it occurs, we think vagueness is a narrower problem than commonly believed.

D. The Role of Institutional Allocation

A final implication of the interpretation-construction distinction is to shed much light on the long-standing debate over institutional allocation, namely whether claim analysis is a question of law for (appellate) judges or a question of fact for juries. Ever since the Supreme Court in *Markman* held that claim analysis should be treated as a "purely legal" issue "under the authority of the single appeals court,"[312] a cottage industry has arisen to argue that the Federal Circuit should nonetheless treat claim analysis as a question of fact and defer to trial courts in their findings.[313] The Federal Circuit is currently considering this issue en banc in *Lighting Ballast Control LLC v. Philips Electronics North America Corp.*[314]

As an initial matter, let us say that the interpretation-construction distinction provides support for the proponents of the argument that claim

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309. *See supra* note 215 and accompanying text.

310. As we explained above, even *Marine Polymer*, which really does involve a vague claim term ("biocompatible"), is not an example of this problem, because the dispute did not fall within the construction zone. Marine Polymer Techs., Inc. v. HemCon, Inc., 672 F.3d 1350, 1367 (Fed. Cir. 2012) (en banc) (opinion of Dyk, J.); *see supra* text accompanying notes 219-221.

311. *See, e.g.*, Burk & Lemley, *supra* note 37, at 37 (arguing that "screw" might encompass a nail if the real invention encompassed nails).

312. *Markman III*, 517 U.S. at 391.

313. *See, e.g.*, ADELMAN ET AL., *supra* note 145, at 665; BESSEN & MEURER, *supra* note 1, at 58-61; NARD, *supra* note 17, at 448-51; Anderson & Menell, *supra* note 48, at 22-23; Eileen M. Herlihy, *Appellate Review of Patent Claim Construction: Should the Federal Circuit Be Its Own Lexicographer in Matters Related to the Seventh Amendment?*, 15 MICH. TELECOMM. & TECH. L. REV. 469, 489, 492-93 (2009); Rai, *supra* note 49, at 882.

314. No. 2012-1014 (Fed. Cir. argued Sept. 13, 2013).

analysis is factual in one important respect. Properly understood, claim interpretation is a factual question about what people in the art actually understand the language to communicate. *Markman*'s holding that the entirety of claim analysis should be treated as a "purely legal" issue creates a legal fiction that departs from reality.[315]

That said, we disagree with those who argue that the Federal Circuit should hold claim analysis to be a question of fact and give deference to district courts, which we believe to be the overwhelming consensus of academic opinion.[316] We disagree for two reasons.

First, we do not think this course is properly open to the Federal Circuit as a subordinate court, given what *Markman* very clearly held. Those who argue for deference to district courts like to point to the passage in *Markman* where the Supreme Court stated: "[T]he sounder course, when available, is to classify a mongrel practice (like construing a term of art following receipt of evidence) by . . . comparing the modern practice to earlier ones . . . ."[317] They argue that this shows that the Supreme Court held claim analysis to be a mongrel practice with a factual component.[318] But this is not a reasonable description of what the Court was doing in the quoted passage. The Supreme Court was making an observation about the intrinsic nature of the problem—how to classify what is intrinsically a mixed practice—before choosing a doctrinal classification. The holding is what the Court then *does*—whether it classifies claim analysis as legal or factual for doctrinal purposes. In *Markman* the Court chose "purely legal."

Second, as a normative matter, although we think that claim analysis really *is* a mixed question, as between its two components (interpretation and construction) we think that existing disputes are mainly over construction. The primary source of dispute is not a factual disagreement over what the language means, but over doctrinal methodology: should patent scope be *governed* by the linguistic meaning or by the real invention? Juries and trial judges are not well-equipped to resolve this question. From the perspective of achieving long-term resolution, we think a consensus about the proper methodology for claim construction is far more likely to emerge from candid deliberation among

315. Nard, *supra* note 1, at 35.

316. *See supra* note 313.

317. *Markman III*, 517 U.S. at 378.

318. *See, e.g.*, ADELMAN ET AL., *supra* note 145, at 665; Rai, *supra* note 49, at 882; *see also* Anderson & Menell, *supra* note 48, at 25 (arguing that the Federal Circuit's de novo review standard has improperly "diverged from the Supreme Court's characterization of claim construction as a 'mongrel practice'"); Nard, *supra* note 1, at 23-24 (observing that "[t]his language breathed new life into the pragmatic textualists who . . . argued that de novo review was not the sole standard of review").

twelve appellate judges (or nine Supreme Court Justices) than it is to emerge among hundreds of district court judges across the nation each following their own individually preferred methodologies in the individual cases that come before them. Under this system, textualist district court judges will follow the linguistic meaning of patentee-drafted claim text while anti-textualist district court judges will follow their subjective conception of the real invention. That, more than anything else, is likely to perpetuate the uncertainty over patent rights.[319]

CONCLUSION

The starting point of all conventional discussion in claim analysis is the linguistic indeterminacy thesis: the assumption that the root cause of difficulty in analyzing patent claims is linguistic indeterminacy. Our fundamental contribution in this Article is to show that the linguistic indeterminacy thesis is wrong. The entire claim analysis literature has been taken off-track by this fundamental error. Contrary to the belief that ex ante uncertainty arises because judges disagree about the *content of* the linguistic meaning of a claim, we have shown that uncertainty arises because judges disagree about *whether to follow* the linguistic meaning as a matter of normative policy.

In some sense, the claim that judges decide cases according to their policy preferences may strike cynical-minded readers as unsurprising. But the enormous literature that treats claim analysis as a linguistic question belies any contention that our claim is well-known. Moreover, our contribution is not merely to make the simple-minded and cynical claim that judges act according to their policy preferences; it is more importantly to provide a conceptual tool to clearly expose *how* this occurs. By providing a conceptual tool to explain precisely why the linguistic indeterminacy thesis errs and how it clouds the existing debate, we provide a better foundation within which future policy prescriptions can be made more cleanly and be evaluated on their policy merits, rather than forcing the debate to be conducted under a misleading linguistic gloss.

The final take-away is that the uncertainty about claim scope will persist until judges reach normative agreement about claim analysis policy (or such normative agreement is imposed from above, such as by Congress). We do not have any suggestions about how to force life-tenured judges to reach policy consensus. But understanding the nature of the problem is a predicate to

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319. *See* Lefstin, *supra* note 9, at 1041-42 (arguing that predictability outside of litigation is more important than predictability after trial).

finding a solution. Without adopting the interpretation-construction distinction and overcoming the linguistic indeterminacy fallacy, no progress can be made on the claim analysis problem.

