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***Teva* and the Process of Claim Construction**

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TEVA AND THE PROCESS OF CLAIM CONSTRUCTION

*Lee Petherbridge & R. Polk Wagner**

Abstract

In *Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc.*, the Supreme Court addressed an oft-discussed jurisprudential disconnect between itself and the U.S. Court of Appeals for the Federal Circuit: whether patent claim construction was “legal” or “factual” in nature, and how much deference is due to district court decision-making in this area. This Article closely examines the *Teva* opinion and situates it within modern claim construction jurisprudence. The thesis is that the *Teva* holding is likely to have only very modest effects on the incidence of deference to district court claim construction, but that for unexpected reasons the case is far more important—and potentially beneficial—than it appears.

This Article argues that *Teva* is likely to have a substantial impact on the methodology of patent claim construction. There are at least two reasons for this. First, the players involved in district court patent litigation now have an increased incentive to introduce extrinsic evidence concerning claim meaning and to argue that such evidence is critical to the outcome of claim construction. Second, the *Teva* opinion itself contemplates a two-step process of evidentiary analysis in claim construction: first an analysis of extrinsic evidence (fact), then an analysis of the weight and direction of such evidence in the patent (law). The post-*Teva* mode of claim construction in district courts is therefore likely to be far more focused on objective, factual information concerning the ordinary meaning of claim terms, or the ways that skilled artisans would understand claim terms generally.

This Article further argues that these changes to the methodology of patent claim construction are generally positive. By anchoring claim meaning in objective evidence and following an established process for evaluating claim terms, this methodology should result in more predictability in litigation-driven claim construction, better drafted patent claims in the longer term, and ultimately, a patent law that more finely tunes the system of incentives it is supposed to regulate—all changes that, if realized, should be welcomed by the patent system, most of its participants, and the public.

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INTRODUCTION

In *Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc.*,¹ the U.S. Supreme Court addressed an oft-discussed jurisprudential disconnect between itself and the U.S. Court of Appeals for the Federal Circuit: whether patent claim construction is “legal” or “factual” in nature, and how much deference is due to district court claim construction decisions.² The *Teva* holding—that only determinations of extrinsic evidence (to the patent) are owed deference under Rule 52 of the Federal Rules of Civil Procedure, and indeed, the scope of the claims themselves are subject to *de novo* review³—has produced quite a bit of quickly-generated commentary. A central feature of most of this literature is the expectation that the case substantially alters the balance of institutional power in the patent system by taking from the Federal Circuit at least some of the power to decide the meaning of patent claim language.⁴

1. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831 (2015).

2. *Id.* at 835; Petition for Writ of Certiorari, *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 723 F.3d 1363, 1373 (Fed. Cir. 2013) (No. 13-854), 2014 WL 230926 (“Whether a district court’s factual finding in support of its construction of a patent claim term may be reviewed *de novo*, as the Federal Circuit requires (and as the panel explicitly did in this case), or only for clear error, as Rule 52(a) requires.”); Petition for Writ of Certiorari Granted, 134 S. Ct. 1761 (2014) (No. 13-854).

3. *Teva*, 135 S. Ct. at 841.

4. For some commentary contending that *Teva* has substantially altered the balance, see, e.g., Amanda Ciccattelli, *Supreme Court’s Teva v. Sandoz Case Decision Has Big Impact on Patent Litigation*, INSIDE COUNS. (Feb. 18, 2015), <http://www.insidecounsel.com/2015/02/18/supreme-courts-teva-v-sandoz-case-decision-has-big?page=2> (reporting that because of the increased level of deference imposed by the *Teva* opinion, the case represents a “minor sea

This Article closely examines the *Teva* opinion and situates it within modern claim construction jurisprudence—and more importantly, the incentives that drive claim construction results. The primary claim is that although *Teva* does not substantially upset the balance of institutional power in the patent system, for unexpected reasons, the case is far more important—and potentially beneficial—than it appears.

To begin with, the Supreme Court’s resolution of how much deference is due a district court’s claim construction decision is likely to have only very modest effects on the incidence of deference to district court claim construction, and therefore little impact on the balance of institutional power in the patent system. Under *Teva*, (1) the ultimate conclusion of the claim construction analysis is a question of law subject to full de novo review on appeal, and (2) any analysis of the intrinsic evidence (of the patent) relevant to the question is also a question of law subject to de novo review.⁵ The subject matter of deference—information extrinsic to the patent that nonetheless helps resolve an issue of claim construction—is unlikely to be dispositive of the matter, at least absent efforts to characterize it as such. Therefore, under the usual approach to claim construction, the Federal Circuit will not lose much, if any, of its de novo review authority, and will retain its role as primary arbiter of claim meaning in the patent system.

And yet, *Teva* is still an important case, for a reason entirely overlooked by the Court’s opinion: because it is likely to have a substantial impact on the incentives that drive the *methodology* of patent claim construction. This Article argues that *Teva* encourages at least two significant claim construction behaviors that are likely to impact claim construction methodology. First, the players involved in district court patent litigation (the parties and the district court) now have an increased

change,” and “will lead to lower reversal rates on appeal from district court claim construction decisions”); Dennis Crouch, *Teva v. Sandoz: Partial Deference in Claim Construction*, PATENTLY-O (Jan. 20, 2015), <http://patentlyo.com/patent/2015/01/partial-deference-construction.html> (holding that *Teva* is likely to favor patentees as compared to the prior de novo review system); Nicole Fagin, *Teva v. Sandoz: The New Standard Could Greatly Impact Patent Litigation Strategy*, TECH., INTELL. PROP. & PRIVACY REP. (Mar. 5, 2015), <http://penntipp.org/node/26> (“This holding has the potential to significantly change the patent litigation game, as it makes it much more difficult for the losing party of a claim construction dispute to overturn an unfavorable district court decision.”); Karen McDaniel & Michael Lafeber, *Alert: Supreme Court Modifies Appeals in Patent Litigation*, BRIGGS & MORGAN (Jan. 23, 2015), <http://www.briggs.com/insights-publications-Alert-Supreme-Court-Modifies-Appeals-in-Patent-Litigation.html> (“The anticipated lower reversal rate resulting from *Teva* should make patent litigation more predictable and affordable.”). *But see* Stacey Cohen & William Casey, *1 Year Later, Teva Providing Less Certainty Than Expected*, LAW 360 (Jan. 19, 2016, 12:50 PM), <http://www.law360.com/articles/651341/1-year-later-teva-providing-less-certainty-than-expected> (noting that over the past year, de novo review still plays an integral role at the Federal Circuit in claim construction).

5. 135 S. Ct. at 835.

incentive to push the locus of claim meaning from intrinsic to extrinsic evidence, mainly by introducing evidence concerning claim meaning, and to argue that such evidence is critical to the outcome of claim construction. Second, the *Teva* opinion itself contemplates a two-step *process* of evidentiary analysis in claim construction: first an analysis of extrinsic evidence (fact), then an analysis of the weight and direction of such evidence in the patent (law). As these behaviors become ingrained in the jurisprudence of claim construction, the post-*Teva* mode of claim construction at district courts is likely to be (1) more procedurally structured and (2) (much) more focused on objective, factual information—such as the ordinary meaning of claim terms, or the ways that persons of skill in the art would understand these terms generally. It is this attention to the process of claim construction that represents a potentially significant change in patent claim construction.

After identifying this situation, this Article proceeds to argue that these changes to claim construction—specifically to the methodology of claim construction—are generally positive. By anchoring claim meaning in objective evidence and following an established process for evaluating claim terms, this methodology should result in more predictability in litigation-driven claim construction, better drafted patent claims in the longer term, and ultimately, a patent law that more finely tunes the system of incentives it is supposed to regulate. These are all changes that, if realized, should be welcomed by the patent system, most of its participants, and the public.

The remainder of this Introduction describes the topic of claim construction and explains its importance to patent law. A recap of the history of modern claim construction jurisprudence follows, focusing on the role central cases have played in its development. Part I explains the Supreme Court’s newly issued *Teva Pharmaceuticals USA, Inc. v. Sandoz, Inc.* opinion, dispelling possible misunderstandings and situating the case in claim construction jurisprudence. Part II presents the argument that *Teva* provides incentives likely to alter district court claim construction. Part III offers reasons why the changes in claim construction methodology identified in Part II can be beneficial.

A. *An Introduction to Claim Construction*

Every U.S. patent⁶ includes a “grant to the patentee, his heirs or assigns, of the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States.”⁷ A patentee’s rights are thus rights

6. The term *patent* is used throughout to refer to a utility patent.

7. 35 U.S.C. § 154(a)(1) (2012).

against the world—or at least that part of the world comprising U.S. territory⁸—and as such, the rights confer on private individuals and companies the power to privately regulate and shape the competitive environment within and across industries. Not surprisingly, patent law—the law surrounding the acquisition and enforcement of patents—seeks to balance a patentee’s private rights with a corresponding public interest that includes promoting innovation, removing impediments to competition, and making new and useful information cheaply available.

To highlight just a few of the many possible examples of patent law’s efforts to balance private rights with public interests: Patents are available only for inventions that represent a sufficiently large technological leap over existing knowledge.⁹ This feature of the law promotes certain types of inventive behavior¹⁰ and at the same time suppresses rights-based impediments to competition surrounding more predictable inventions.¹¹ Additionally, patent documents are required to contain a description of the invention adequate “to enable any person skilled in the art . . . to make and use” the invention.¹² A purpose here is to ensure that the public, in exchange for the cost of granting exclusive rights, immediately acquires the ability to comprehend the invention and, once the grant expires, retains the ability to practice the invention. As a final example, patent law requires that each patent “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor . . . regards as the invention.”¹³ Patent claims define the scope of the right to exclude conferred by a patent.¹⁴ The claiming requirement directly evinces concern for the public interest, because by requiring such precision in claim language, it seeks to afford the public effective notice of the scope of the right.¹⁵

8. *Accord id.* § 271(a) (“Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.”).

9. *Id.* § 103 (“A patent for a claimed invention may not be obtained . . . if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious . . . to a person having ordinary skill in the art to which the claimed invention pertains.”).

10. *See generally* Robert P. Merges, *Uncertainty and the Standard of Patentability*, 7 HIGH TECH. L.J. 1 (1992) (discussing the “nonobviousness” test used to qualify patents).

11. *Id.* at 13–14; *see also* Lee Petherbridge & Jason Rantanen, *In Memoriam Best Mode*, 64 STAN. L. REV. ONLINE 125, 125 (2012) (elaborating on the relationship between this aspect of patentability and patent law’s best-mode requirement).

12. 35 U.S.C. § 112(a).

13. *Id.* § 112(b).

14. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996).

15. *Id.* at 373.

Central to these and to perhaps all of patent law's efforts to balance private rights with public interests is the law of claim construction. *Claim construction* refers to the process through which the language making up a patent claim is translated into a legally relevant context.¹⁶ If, for instance, a claim defines an invention as having two elements that are "coupled," and an accused device having the two elements connects them electrically rather than physically, the claim term *coupled* must be construed to determine whether the claim defines only a physical connection (in which case no infringement) or also includes electrical connections (in which case infringement).¹⁷

That claim construction is central to patent law's efforts to balance private rights with public interests becomes even more apparent when the examples laid out above are reexamined. It is what each claim defines that is tested for validity, so a claim in an application or issued patent must be construed—a patent examiner or a court must form a particular and distinct understanding of claim meaning—*before* the claim can be tested against the prior art to determine whether an invention is a sufficiently large technological leap over existing knowledge to warrant a patent grant.¹⁸ Similarly, the requirement that the patent document contain a description of the invention adequate "to enable any person skilled in the art . . . to make and use" is a requirement that the thing defined by each claim be so described.¹⁹ Whether patent claims provide effective public notice of the scope of the exclusive right—thus enabling the public and competitors to arrange their affairs in such a way as to avoid suits for infringement—depends almost entirely on whether the law of claim construction is well understood and reliably predicts how courts will behave.

In sum, the law of claim construction is of exceptional importance to the patent system for at least three reasons.

The law of claim construction is the fulcrum upon which rest all of patent law's major policy levers. To the extent doctrines of infringement, disclosure, and validity represent policy levers²⁰—legal tools that courts

16. 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* 123, 124 (Shyamkrishna Balganeshe ed., 2013).

17. *Johnson Worldwide Assocs. v. Zebco Corp.*, 175 F.3d 985, 992 (Fed. Cir. 1999).

18. U.S. PATENT AND TRADEMARK OFFICE, *MANUAL OF PATENT EXAMINING PROCEDURE* § 2103 (9th ed. Nov. 2015), <https://www.uspto.gov/web/offices/pac/mpep/index.html>.

19. *Id.* § 2164.

20. This Article refers to *policy levers* in loose reference to Dan L. Burk and Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1638–68 (2003) (characterizing as "policy levers" a (nonexhaustive) list of patent doctrines that courts might use to make industry or technology specific the application of the patent laws). While this use of the term *policy levers* is not to emphasize the potential use of doctrines in the customization of the patent law for

can use to balance private rights and public interests—their effective application rests heavily on the quality and predictability of claim construction law. If claim construction law is of poor quality and is inconsistent, the social benefit of other patent law doctrines is almost certainly diminished.

Claim construction is the most important issue in patent litigation. Theoretical concerns aside, claim construction is highly contested in most patent cases and is likely the dispositive issue in the overwhelming majority of cases. This is because nearly every regularly litigated aspect of a patent case turns on claim construction: whether claims have been infringed, whether claims are adequately supported by disclosure, whether claims are patentable over prior art, whether claims are enforceable, whether claims define patentable subject matter, etc.—all depend on what claims are construed to mean.

All patent system participants use the law of claim construction. Patent applicants construe claims to ensure that they acquire the most economically useful rights possible. The U.S. Patent and Trademark Office construes claims to determine patentability. Private parties construe claims to determine whether to initiate a lawsuit, to make investment decisions, and to evaluate personal infringement risk. Courts construe claims to decide disputes of infringement and validity.

It follows that the law of claim construction deserves close attention and rigorous study.

B. *A Recap of the Modern History of Claim Construction Jurisprudence*

The modern history of claim construction can be traced to the creation of the Federal Circuit.²¹ Congress made the court the final arbiter of patent disputes²² at least in part because it concluded that giving the Federal Circuit such power would produce a clearer and more coherent legal infrastructure for the patent system.²³

particular trades, industries, or types of patents, it shares the meaning that patent doctrines perform the task of regulating the patent system's incentive structure. Also, the policy levers described in *Policy Levers in Patent Law* are like those set out in the text above because their effective application often rests on the quality and predictability of claim construction law.

21. See Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, 96 Stat. 25 (relevant provisions codified as amended in scattered sections of 28 U.S.C.).

22. *But see* Holmes Group, Inc. v. Vornado Air Circulation Sys., Inc., 535 U.S. 826, 830–31 (2002) (deciding that the Federal Circuit's patent jurisdiction does not extend to cases where the patent law issue is not in the complaint and enters the case through the answer as a counterclaim).

23. See, e.g., S. REP. NO. 97-275, at 4–5 (1981), as reprinted in 1982 U.S.C.C.A.N. 11, 14–15 (stating that the creation of a centralized court to hear suits related to patents will provide doctrinal stability and as a result will decrease uncertainty and increase innovation). See generally

Given the central role that claim construction plays in the operation of all major patent doctrines, it is perhaps not surprising that the Federal Circuit sought to clarify the judicial role in claim construction. In *Markman v. Westview Instruments*,²⁴ an en banc Federal Circuit held that claim construction “is a matter of law exclusively for the court.”²⁵ The Supreme Court affirmed,²⁶ elaborating that claim construction must be conducted by judges, as opposed to juries, both because judges are more likely to be better at the task than “jurors unburdened by training in exegesis,”²⁷ and because limiting interpretive authority to judges exclusively was most likely to promote the goals of intra-jurisdictional certainty and uniformity.²⁸

In its affirmed *Markman* holding, the Federal Circuit reviewed the district court’s claim construction *de novo*.²⁹ But in cases that followed *Markman*, some Federal Circuit panels appeared to be applying the clear error form of deference to claim construction findings considered factual in nature.³⁰ In *Cybor v. FAS Technologies, Inc.*,³¹ an en banc Federal

Rochelle Cooper Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U. L. REV. 1 (1989) (describing reasons why the Federal Circuit was created).

24. 52 F.3d 967 (1995), *aff’d*, 517 U.S. 370 (1996).

25. *Id.* at 970–71.

26. 517 U.S. 370, 372 (1996) (“We hold that the construction of a patent, including terms of art within its claim, is exclusively within the province of the court.”).

27. *Id.* at 388.

28. *Id.* at 390–91.

29. 52 F.3d at 979 (“Because claim construction is a matter of law, the construction given the claims is reviewed *de novo* on appeal.”); *id.* at 981 (“Through this process of construing claims by, among other things, using certain extrinsic evidence that the court finds helpful and rejecting other evidence as unhelpful, and resolving disputes *en route* to pronouncing the meaning of claim language as a matter of law based on the patent documents themselves, the court is *not* crediting certain evidence over other evidence or making factual evidentiary findings. Rather, the court is looking to the extrinsic evidence to assist in its construction of the written document, a task it is required to perform. The district court’s claim construction, enlightened by such extrinsic evidence as may be helpful, is still based upon the patent and prosecution history. It is therefore still construction, and is a matter of law subject to *de novo* review.” (footnote omitted)).

30. *Metaullics Sys. Co. v. Cooper*, 100 F.3d 938, 939 (Fed. Cir. 1996) (“[B]ecause claim construction is a mixed question of law and fact . . . we may be required to defer to a trial court’s factual findings. Where a district court makes findings of fact as a part of claim construction, we may not set them aside absent clear error. *See* Fed. R. Civ. P. 52(a).”); *see also* *Fromson v. Anitec Printing Plates, Inc.*, 132 F.3d 1437, 1444 (Fed. Cir. 1997) (distinguishing *Markman* and appearing to use expert-introduced “extrinsic evidence in order to determine the meaning and scope of a technical term as the term is used in the claims”); *Eastman Kodak Co. v. Goodyear Tire & Rubber Co.*, 114 F.3d 1547, 1555–56 (Fed. Cir. 1997) (“[R]ecognizing both the trial court’s ‘trained ability to evaluate [expert] testimony in relation to the overall structure of the patent’ and the trial court’s ‘better position to ascertain whether an expert’s proposed definition fully comports with the specification and claims.’” (citing *Markman*, 116 S. Ct. at 1395)).

31. 138 F.3d 1448 (Fed. Cir. 1998).

Circuit recognized the jurisprudential divide³² and—following its understanding of *Markman*³³—declared that claim construction presents a “purely legal” question and is therefore reviewed de novo on appeal.³⁴ *Cybor* thus confirmed the Federal Circuit’s plenary authority over the claim construction issue.

With this authority now clearly in hand, the Federal Circuit—pursuing its mandate to bring consistency and coherence to patent law—set to work deciding how claim construction should be accomplished. Comprehensive empirical studies examining the period following *Markman/Cybor* have identified two methods developed by Federal Circuit panels.³⁵

The first has come to be known as the *procedural* approach. This approach is notable in that it evinces a firm process that gives primary weight to the general, commonly understood meaning that patent claim language would have had to ordinarily skilled artisans at the time of invention. This commonly understood, or “ordinary,” meaning of claim language can be determined by express definitions included in the patent specification, or by any number of objective sources including extrinsic sources such as dictionaries and relevant scientific articles. Panels applying a procedural approach hold patentees to this ordinary meaning unless there is a clear, legally justifiable reason to depart from it. *Johnson Worldwide Associates, Inc. v. Zebco Corp.*³⁶ is an example of an opinion evincing the procedural approach.³⁷

32. *Id.* at 1454–55 (“After the Supreme Court’s decision in *Markman II*, panels of this court have generally followed the review standard of *Markman I*. . . . In some cases, however, a clearly erroneous standard has been applied to findings considered to be factual in nature that are incident to the judge’s construction of patent claims. . . . We ordered that this case be decided in banc to resolve this conflict.”).

33. *Id.* at 1455 (“Nothing in the Supreme Court’s opinion supports the view that the Court endorsed a silent, third option—that claim construction may involve subsidiary or underlying questions of fact.”); *id.* at 1455 n.4 (“If this were so, surely the Supreme Court would have discussed whether subsidiary or underlying fact questions should be decided by the judge or the jury.”).

34. *Id.* at 1456 (“[W]e therefore reaffirm that, as a purely legal question, we review claim construction *de novo* on appeal including any allegedly fact-based questions relating to claim construction.”).

35. R. Polk Wagner & Lee Petherbridge, *Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance*, 152 U. PA. L. REV. 1105, 1105 (2004) (“[T]he study indicates that the Federal Circuit is sharply divided between two basic methodological approaches to claim construction, each of which leads to distinct results.”). See generally Wagner & Petherbridge, *supra* note 16 (concluding that the Federal Circuit has yet to resolve the split over claim construction).

36. 175 F.3d 985 (Fed. Cir. 1999).

37. See generally Wagner & Petherbridge, *supra* note 35 (discussing the procedural approach); Wagner & Petherbridge, *supra* note 16 (offering further examples evincing the procedural approach).

We begin, as with all claim interpretation analyses, with the language of the claims. The general rule is, of course, that terms in the claim are to be given their ordinary and accustomed meaning. General descriptive terms will ordinarily be given their full meaning; modifiers will not be added to broad terms standing alone. In short, a court must presume that the terms in the claim mean what they say, and, unless otherwise compelled, give full effect to the ordinary and accustomed meaning of claim terms.

In order to overcome this heavy presumption in favor of the ordinary meaning of claim language, it is clear that “a party wishing to use statements in the written description to confine or otherwise affect a patent’s scope must . . . be a textual reference in the actual language of the claim with which to associate a proffered claim construction.

Our case law demonstrates two situations where a sufficient reason exists to require the entry of a definition of a claim term other than its ordinary and accustomed meaning. The first arises if the patentee has chosen to be his or her own lexicographer by clearly setting forth an explicit definition for a claim term. The second is where the term or terms chosen by the patentee so deprive the claim of clarity that there is no means by which the scope of the claim may be ascertained from the language used. In these two circumstances, a term or terms used in the claim invites—or indeed, requires—reference to intrinsic, or in some cases, extrinsic, evidence, to determine the scope of the claim language.³⁸

The second method identified in Federal Circuit opinions has been labeled the *holistic* approach. The holistic approach deemphasizes process. Instead, opinions expressing a holistic approach interpret patent claims via an all-encompassing, open-ended reading of the patent document that variably emphasizes the patent disclosure, prosecution history, claim language, expert testimony, or relevant dictionaries. A hallmark of the holistic approach is to disregard commonly held, art-specific understandings of the meaning of claim terms and to instead open immediately with an analysis of the patent specification or prosecution history. An example of the holistic approach can be found in *Wang Laboratories, Inc. v. America Online, Inc.*³⁹:

The parties agreed before the district court that the term “frame” can in general usage be applied to bit-mapped

38. *Johnson*, 175 F.3d at 989–90 (citations omitted).

39. 197 F.3d 1377 (Fed. Cir. 1999).

display systems as well as to character-based systems; experts for both sides so testified. The disagreement was as to whether the term “frame” in the ’669 claims embraced this general usage, or whether the term would be understood by persons of skill in this field as limited to the character-based systems described in the ’669 patent. . . .

. . . .

The only system that is described and enabled in the ’669 specification and drawings uses a character-based protocol. The specification mentions non-character-based protocols, [but] . . . [t]he district court viewed the references to bit-mapped protocols as acknowledgments of the state of the art, and not as an enlargement of the invention described in the patent. We agree, and conclude that the references to other known protocols do not describe them as included in the applicant's invention, and that the specification would not be so understood by a person skilled in the field of the invention.

. . . .

Wang states that the character-based protocol is simply a “preferred embodiment,” and that the embodiment described in the specification does not set the boundaries of the claims Although precedent offers assorted quotations in support of differing conclusions concerning the scope of the specification, these cases must be viewed in the factual context in which they arose. Whether an invention is fairly claimed more broadly than the “preferred embodiment” in the specification is a question specific to the content of the specification, the context in which the embodiment is described, the prosecution history, and if appropriate the prior art, for claims should be construed, when feasible, to sustain their validity. The usage “preferred” does not of itself broaden the claims beyond their support in the specification. The only embodiment described in the ’669 patent specification is the character-based protocol, and the claims were correctly interpreted as limited thereto.⁴⁰

Studies have shown that approximately two-thirds of Federal Circuit panels use the procedural methodology, while one-third use the holistic methodology.⁴¹ Significantly, these two methodological approaches are often incompatible. Differences in methodological approach to claim

40. *Id.* at 1381–83 (citations omitted).

41. Wagner & Petherbridge, *supra* note 35, at 1177.

construction were found to be present in 95% of claim construction disputes between Federal Circuit judges,⁴² and 75% of Federal Circuit reversals of district court claim constructions.⁴³

After this internal jurisprudential divide had percolated for some time, the Federal Circuit finally grasped the nettle en banc in *Phillips v. AWH Corp.*,⁴⁴ the self-professed goal of which was to “clarif[y]” the court’s methodological approach to claim construction.⁴⁵ The opinion for the court endorsed the holistic approach for its focus on the context in which claim terms are used. At the same time, the court criticized the procedural approach’s reliance on the general, commonly understood meaning that patent claim language would have had to ordinarily skilled artisans at the time of invention as disconnected from the underlying technological inquiry and more likely to be error prone.⁴⁶

While the *Phillips* opinion endorsed the holistic approach and criticized the procedural approach, it did not overrule or find error in any of the court’s many prior opinions expressing a procedural approach to claim construction—not even the one opinion that *Phillips* most squarely criticized, *Texas Digital Systems, Inc. v. Telegenix, Inc.*⁴⁷ Quite the contrary, the Federal Circuit instead emphasized that courts might use any method to perform the claim construction task:

[T]here is no magic formula or catechism for conducting claim construction. Nor is the court barred from considering any particular sources or required to analyze sources in any specific sequence, as long as those sources are not used to contradict claim meaning that is unambiguous in light of the intrinsic evidence. For example, a judge who encounters a claim term while reading a patent might consult a general purpose or specialized dictionary to begin to understand the meaning of the term, before reviewing the remainder of the patent to determine how the patentee has used the term. The sequence of steps used by the judge in consulting various

42. *Id.* at 1144.

43. *Id.* at 1145.

44. 415 F.3d 1303 (Fed. Cir. 2005) (en banc). The Federal Circuit does not use the terms *procedural* or *holistic* when describing its claim construction jurisprudence. The particular issue in *Phillips* involved a discussion of the merits of the use of dictionaries as evidence of the meaning that claim terms would have to the ordinary artisan, as compared to the specification and prosecution history. Leading up to *Phillips*, the use of dictionaries had gained some popularity (and drawn some criticism) after an earlier case from the procedural genre, known as *Texas Digital*, discussed it favorably. See *Tex. Dig. Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1220 (Fed. Cir. 2002).

45. *Phillips*, 415 F.3d at 1312.

46. *Id.* at 1319–24.

47. 308 F.3d 1193.

sources is not important; what matters is for the court to attach the appropriate weight to be assigned to those sources in light of the statutes and policies that inform patent law. In [a notable earlier case], we did not attempt to provide a rigid algorithm for claim construction, but simply attempted to explain why, in general, certain types of evidence are more valuable than others.⁴⁸

A study examining the prevalence of procedural and holistic approaches to claim construction following *Phillips* found that within one year of the opinion, about two-thirds of Federal Circuit panels were again using the procedural methodology, while the remaining one-third were using the holistic methodology.⁴⁹

Perhaps because procedural and holistic approaches to claim construction are often incompatible, the hue and cry⁵⁰ surrounding the Federal Circuit's claim construction jurisprudence did not subside after *Phillips*. But after *Phillips*, the emphasis both from outside the court, and to some extent within, turned away from facilitating a consistent and predictable claim construction jurisprudence, and returned instead to the issue of whether *Markman* and (particularly) *Cybor* were correct in giving the Federal Circuit plenary authority over claim construction.

In fact, the issue was already gaining steam around the time of *Phillips*. The order granting an en banc hearing in *Phillips* directed the parties to brief, inter alia, the questions:

Consistent with the Supreme Court's decision in *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 116 S. Ct. 1384, 134 L.Ed.2d 577 (1996), and our en banc decision in *Cybor Corp. v. FAS Technologies, Inc.*, 138 F.3d

48. *Phillips*, 415 F.3d at 1324 (citations omitted).

49. Wagner & Petherbridge, *supra* note 16, at 128.

50. See, e.g., J. Jonas Anderson & Peter S. Menell, *Informal Deference: A Historical, Empirical, and Normative Analysis of Patent Claim Construction*, 108 NW. U. L. REV. 1, 6 (conducting a "comprehensive empirical analysis of the Federal Circuit's claim construction jurisprudence from 2000 through 2011. The data show that the claim construction reversal rate has dropped significantly since the *Phillips* decision: from 38.6% to 25.6% on a per-claim-term basis. The reversal rate on a per-case basis . . . has fallen from 41.8% prior to *Phillips* to 31.6% following the decision. . . . Since *Phillips*, each Federal Circuit judge has become more likely to affirm claim construction appeals than he or she was before the decision."); Michael Saunders, *A Survey of Post-Phillips Claim Construction Cases*, 22 BERKELEY TECH. L.J. 215, 236 (basing his study of claim construction reversals on Federal Circuit rulings from July 13, 2005, immediately after the *Phillips* decision through September 13, 2006, "[t]he results indicate that *Phillips* has not reduced reversal rates. Compared to the results of Chu's study, the overall reversal rate in claim construction cases, excluding summary affirmances, is 53.5%, slightly up from 47.3% for Chu's study. Similarly, the percent of cases where at least one construction changed is 39.5%, only slightly down from 44% from Chu's study" (footnotes omitted)).

1448 (Fed.Cir.1998), is it appropriate for this court to accord any deference to any aspect of trial court claim construction rulings? If so, on what aspects, in what circumstances, and to what extent?⁵¹

The *Phillips* opinion never addressed these questions but Judge Mayer's dissent left no question where he thought the flaw in Federal Circuit claim construction jurisprudence lay:

Now more than ever I am convinced of the futility, indeed the absurdity, of this court's persistence in adhering to the falsehood that claim construction is a matter of law devoid of any factual component. Because any attempt to fashion a coherent standard under this regime is pointless, as illustrated by our many failed attempts to do so, I dissent.

This court was created for the purpose of bringing consistency to the patent field. Instead, we have taken this noble mandate, to reinvigorate the patent and introduce predictability to the field, and focused inappropriate power in this court. In our quest to elevate our importance, we have, however, disregarded our role as an appellate court; the resulting mayhem has seriously undermined the legitimacy of the process, if not the integrity of the institution.

In the name of uniformity, *Cybor Corp. v. FAS Technologies, Inc.*, 138 F.3d 1448 (Fed.Cir.1998) (en banc), held that claim construction does not involve subsidiary or underlying questions of fact and that we are, therefore, unbridled by either the expertise or efforts of the district court. . . .

Again today we vainly attempt to establish standards by which this court will interpret claims. But after proposing no fewer than seven questions, receiving more than thirty *amici curiae* briefs, and whipping the bar into a frenzy of expectation, we say nothing new, but merely restate what has become the practice over the last ten years—that we will decide cases according to whatever mode or method results in the outcome we desire, or at least allows us a seemingly plausible way out of the case. I am not surprised by this. Indeed, there can be no workable standards by which this court will interpret claims so long as we are blind to the factual component of the task.⁵²

51. *Phillips v. AWH Corp.*, 376 F.3d 1382, 1383 (Fed. Cir. 2004) (per curiam).

52. 415 F.3d at 1330–31 (Mayer, J., dissenting) (citations omitted).

In the ensuing years, the Federal Circuit made some attempts to reinterpret the *Markman/Cybor* teachings,⁵³ but none succeeded, until finally, nearly twenty years after *Markman*, the Supreme Court granted the petition for certiorari in *Teva Pharmaceuticals, USA v. Sandoz, Inc.*⁵⁴

I. *TEVA V. SANDOZ*: WHAT HAPPENED?

A. *Procedural Background*

Teva and related firms own a patent directed to the multiple sclerosis drug Copaxone.⁵⁵ When Sandoz, as well as some other firms, sought to market the drug, Teva sued them for patent infringement.⁵⁶ Sandoz answered that Teva's patent claims were invalid, because, inter alia, claim language defining the drug's active ingredient as having "a molecular weight of about 5 to 9 kilodaltons"⁵⁷ was indefinite.⁵⁸ The reason Teva's patent claims were indefinite, argued Sandoz, was that they did not make clear which of three methods of calculation should be used to determine the meaning of the claim term "molecular weight."⁵⁹ Consequently, according to Sandoz, the claims ran afoul of the statutory requirement that patent claims "particularly point[] out and distinctly claim[] the subject matter which the inventor . . . regards as the invention."⁶⁰

At the district court, Teva's expert opined that, although the information in the patent allowed for at least three possible ways of calculating—and therefore at least three possible meanings for—the term "molecular weight," a person of ordinary skill in the art at the time of the invention would understand the claim term "molecular weight" to refer to molecular weight calculated by just one of the several possible calculations.⁶¹ The district court credited Teva's expert's testimony on

53. *Lighting Ballast Control LLC v. Phillips Elecs. N. Am. Corp.*, 744 F.3d 1272, 1276 (Fed. Cir. 2014) (reconsidering en banc de novo appellate review of claim construction); *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 469 F.3d 1039, 1040 (Fed. Cir. 2006) (order denying en banc rehearing of de novo review opposed by four judges).

54. Petition for Writ of Certiorari, *supra* note 2, at 1373; Petition for Writ of Certiorari Granted, *supra* note 2.

55. *Teva Pharm. USA, Inc. v Sandoz, Inc.*, 810 F. Supp. 2d 578, 581 (S.D.N.Y. 2011).

56. *Id.*

57. *Id.* at 597.

58. *Id.* at 581.

59. *Id.* ("The crux of . . . Defendants' claim construction argument is that the patent claims are indefinite because the patents fail to specify the type of molecular weight being claimed or the standards and conditions by which the claimed molecular weight should be determined.")

60. 35 U.S.C. § 112(b) (2012).

61. *Teva*, 810 F. Supp. 2d at 588.

this point,⁶² and concluded that Teva's patent claims were not indefinite.⁶³

On appeal, the Federal Circuit reviewed the district court's indefiniteness judgment⁶⁴ and concluded that the district court had erred in concluding that some of Teva's claims were not indefinite.⁶⁵ Notably, while the Federal Circuit reviewed the district court's indefiniteness judgment *de novo*,⁶⁶ the form of review prescribed by case law,⁶⁷ the Federal Circuit's opinion does not explicitly review the district court's construction of "molecular weight."⁶⁸

The lack of explicit appellate review and rejection of the district court's construction of "molecular weight" continues to lead to competing interpretations of the analysis rendered in the Federal Circuit's opinion. The first interpretation, which represents the most direct reading of the Federal Circuit's opinion, is that the Federal Circuit took no issue with the district court's construction of "molecular weight," but found the claims indefinite after applying the law of indefiniteness. The second interpretation, which lacks explicit support in the Federal Circuit's opinion but which might be implied,⁶⁹ is that the Federal Circuit

62. *Id.* ("The Court credits and accepts all of Dr. Grant's opinions . . .").

63. *Id.* at 588–94.

64. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 723 F.3d 1363, 1367 (Fed. Cir. 2013) ("The court rejected the Appellants' argument that the term 'molecular weight' was insolubly ambiguous because it could refer to [multiple] molecular weight measure[s].").

65. *Id.* at 1369.

66. *Id.* ("On *de novo* review of the district court's indefiniteness holding, we conclude that Dr. Grant's testimony does not save Group I claims from indefiniteness.").

67. *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1365 (Fed. Cir. 2011) ("The review of indefiniteness under U.S.C. § 112, paragraph 2, proceeds as a question of law without deference.").

68. The Federal Circuit does devote part of its opinion to claim construction, but it addresses different claim language. *See Teva*, 723 F.3d at 1373–75.

69. The argument that the Federal Circuit impliedly rejected the district court's claim construction might rest on three foundations: First, one might assume that when the law of indefiniteness is correctly applied to the district court's construction of "molecular weight," the claim must be definite. The Federal Circuit's conclusion to the contrary thus implies that the court understood the meaning of the term differently than did the district court. Second, although, as noted in the text, the Federal Circuit's opinion appears not to explicitly challenge Teva's expert's opinion about the meaning a person skilled in the relevant art would ascribe to "molecular weight," the expert testimony is to the effect that Teva's favored calculation is the primary one a person of skill in the art would arrive at upon reviewing the patent. The Federal Circuit's analysis of indefiniteness is in tension with the expert opinion in that it (1) does not accept that the expert's opinion is dispositive of the indefiniteness inquiry, *Teva*, 723 F.3d at 1369 ("Dr. Grant's testimony does not save Group I claims from indefiniteness."), and (2) seems to interpret evidence intrinsic to the patent as creating more ambiguity in the meaning of "molecular weight" than Teva's expert's opinion—interpreting the same intrinsic evidence—allows. *Id.* (interpreting Figure 1 as "mak[ing] it difficult to conclude that [Teva's favored calculation] is the intended measure."). Third, while claim construction and indefiniteness are clearly distinct issues in any patent case,

concluded that the district court erroneously construed the term “molecular weight,” and that when properly evaluated in the context of the patent, the term is fatally indefinite because it does not allow a person skilled in the relevant art to particularly and distinctly discern the boundaries of the claim.

In its petition for certiorari, Teva argued that the Federal Circuit had taken the second approach, phrasing the question presented thusly: “Whether a district court’s factual finding in support of its construction of a patent claim term may be reviewed *de novo*, as the Federal Circuit requires (and as the panel explicitly⁷⁰ did in this case), or only for clear error, as Rule 52(a)⁷¹ requires.”⁷²

The Supreme Court granted the petition,⁷³ paving the way, after nearly twenty years of practice, for the reexamination and possible refinement of the Court’s *Markman* decision and its most famous progeny, *Cybor*.

B. *The Supreme Court’s Opinion*

In *Teva*, the Supreme Court held that the ultimate conclusion about the proper construction of a patent claim remains subject to *de novo* appellate review.⁷⁴ This includes all evidence of claim meaning intrinsic to the patent document.⁷⁵ When, however, in the course of reaching a construction a district judge examines extrinsic evidence to answer

they are very closely interconnected. *See Cox Commc’ns, Inc. v. Sprint Commc’n Co. LP*, 838 F.3d 1224, 1232 (Fed. Cir. 2016); *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1379 (Fed. Cir. 1999). Indefiniteness is, at bottom, an analysis of the degree of certainty with which claims inform one skilled in the art about the boundaries of the patentee’s exclusive right. Whether claims provide reasonable certainty about the boundaries of a patentee’s exclusive right depends largely on whether a judge using the traditional tools of claim construction concludes claims are amenable to a reasonably certain construction. The tight interconnection between claim construction and indefiniteness might therefore also support the interpretation that the Federal Circuit did review and reject the district court’s construction of “molecular weight.”

70. It follows from the discussion in the preceding text that the use of the term “explicitly” in connection with the construction of the term “molecular weight” might have been somewhat audacious.

71. Fed. R. Civ. P. 52(a)(6) (“Findings of fact, whether based on oral or other evidence, must not be set aside unless clearly erroneous . . .”).

72. Petition for Writ of Certiorari, *supra* note 2, at 1373.

73. Petition for Writ of Certiorari Granted, *supra* note 2.

74. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 837–43 (2015); *id.* at 841 (“The appellate court can still review the district court’s ultimate construction of the claim *de novo*.”).

75. *Id.* at 841 (“As all parties agree, when the district court reviews only evidence intrinsic to the patent (the patent claims and specifications, along with the patent’s prosecution history), the judge’s determination will amount solely to a determination of law, and the Court of Appeals will review that construction *de novo*.”).

factual questions subsidiary to the construction, the factual conclusions reached are reviewed for “clear error” as prescribed by Rule 52(a)(6).⁷⁶

The Court is explicit that the factual questions it contemplates as possibly surrounding patent claim construction are genuinely subsidiary—that is, that they will never be dispositive:

[I]f a district court resolves a dispute between experts and makes a factual finding that, in general, a certain term of art had a particular meaning to a person of ordinary skill in the art at the time of the invention, the district court must then conduct a legal analysis: whether a skilled artisan would ascribe that same meaning to that term *in the context of the specific patent claim under review*. That is because “[e]xperts may be examined to explain terms of art, and the state of the art, at any given time,” but they cannot be used to prove “the proper or legal construction of any instrument of writing.” . . . “*But in the actual interpretation of the patent the court proceeds upon its own responsibility, as an arbiter of the law, giving to the patent its true and final character and force*” (quoting 2 W. Robinson, *Law of Patents* § 732, pp. 482–483 (1890); emphasis in original).⁷⁷

The Court is similarly explicit in its conclusion that “subsidiary factfinding is unlikely to loom large in the universe of litigated claim construction.”⁷⁸

Because the ultimate conclusion about the proper construction of a patent claim is a purely legal one subject to de novo review, and because any subsidiary factual finding involved in a district court’s claim construction cannot override interpretive findings based on evidence intrinsic to the patent document—conclusions that are also reviewed de novo—it seems unlikely that *Teva* will have anything more than a modest impact on the incidence of appellate deference to district court claim construction.

It thus appears that *Teva* changes very little of the *Markman/Cybor* approach to claim construction,⁷⁹ and should be considered a relatively unimportant case from that perspective. As the following Part sets out,

76. *Id.* (“These are the ‘evidentiary underpinnings’ of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.”).

77. *Id.* (alteration in original).

78. *Id.* at 840.

79. The few Federal Circuit opinions following *Teva* appear consistent with this interpretation. *See, e.g.,* *Shire Dev., LLC v. Watson Pharm. Inc.*, 787 F.3d 1359, 1368 (Fed. Cir. 2015) (rejecting the argument that deference is owed to expert testimony); *see also* Jason Rantanen, *Teva, Nautilus, and Change Without Change*, 18 STAN. TECH. L. REV. 430, 436, 442 (2015) (arguing that in post-*Teva* cases the Federal Circuit has regularly refused deference to district court claim construction). *But see* *Va. Innovation Scis., Inc. v. Samsung Elecs. Co.*, 614 F. App’x 503, 511 (Fed. Cir. 2015) (deciding that extrinsic evidence must be consulted).

however, there is reason to think, for perhaps unexpected reasons, that *Teva* is potentially a much more important case than it appears.

II. THE (HIDDEN) SIGNIFICANCE OF *TEVA*

As noted above, the question discussed and answered in *Teva* is limited to the proper form of appellate review for district court claim construction. For the reasons just discussed, the Supreme Court's answer to the question of the proper form of review is unlikely to have a large impact on the quantity of appellate deference to district court claim construction. Nevertheless, *Teva* may still prove an important case.

The reason is one entirely overlooked by the Court's opinion: The case is likely to have a substantial impact on the *incentives that drive the methodology* of patent claim construction. This Part argues that *Teva* encourages at least two behaviors that are likely to impact claim construction methodology. First, the players involved in district court patent litigation (the district courts and parties) now have an increased incentive to push the locus of claim construction analysis towards extrinsic evidence and away from intrinsic evidence. Second, and following from the first, the *Teva* opinion itself contemplates a two-step *process* of evidentiary analysis in claim construction: first an analysis of extrinsic evidence (fact), then an analysis of the weight and direction of such evidence in the patent (law).

As these behaviors become common, the post-*Teva* mode of claim construction in district courts is likely to be somewhat procedurally structured and far more focused on objective, factual information—such as the ordinary meaning of claim terms, or the ways that persons of skill in the art would understand these terms generally. It follows that with this additional focus will come a more rigorous attention to the process of claim construction—where the line between extrinsic and intrinsic evidence lies, and how extrinsic evidence should be understood in the context of the patent.

A. *Changed Incentives*

Prior to *Teva*, factual findings based on expert testimony were disfavored in the analysis of claim construction.⁸⁰ *Teva* changes this. Even though the ultimate claim construction question—and the interpretation of intrinsic evidence, and the meaning of common terms, and more—is to be reviewed *de novo*, this form of extrinsic evidence may now plainly be used to shape claim construction outcomes.⁸¹

80. See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1318 (Fed. Cir. 2005). Which is not to say expert testimony was impermissible when it came to claim construction. It was (and is) possible under Federal Circuit law for courts to hear from experts in the context of claim construction.

81. *Teva*, 135 S. Ct. at 833.

As the Supreme Court observed:

In some instances, a factual finding will play only a small role in a judge's ultimate legal conclusion about the meaning of the patent term. But in some instances, a factual finding may be close to dispositive of the ultimate legal question of the proper meaning of the term in the context of the patent.⁸²

The “factual finding[s]” the Court refers to are the extrinsic evidence-based subsidiary factual findings discussed earlier. The Court clearly envisions that such factual findings may canalize district court claim constructions, and in fact may be highly influential. As explained earlier, *Teva* holds that a reviewing court is to accept these potentially “close to dispositive” factual findings unless they are clearly erroneous.⁸³

We think that these changes—allowing extrinsic evidence-based fact finding to influence claim construction outcomes and requiring appellate deference to such fact finding—enlarge the incentive that the players involved in district court patent litigation (the district courts and parties) have to introduce extrinsic evidence concerning claim meaning and to argue that such evidence is critical to the outcome of claim construction.

One reason such an incentive exists for district courts is that district courts may reasonably expect that making claim construction depend on extrinsic evidence-based factual findings will conserve that court's (judicial) resources. The intuition here is that a claim construction that depends on factual findings made from extrinsic evidence will, after *Teva*, be less likely to be reversed by the Federal Circuit than a claim construction that does not do so. Because, as discussed earlier,⁸⁴ claim construction is so central to the application of virtually all litigated patent doctrines, appellate acceptance of a district court's claim construction substantially improves the likelihood that the district court's entire judgment will be affirmed. District courts can therefore reasonably expect that making a claim construction depend on extrinsic evidence-based factual findings should bring a patent case to a more rapid—and thus less costly—close. As it is generally safe to assume that district courts (and other courts too, for that matter) wish to decide cases as efficiently as possible, it follows that district courts have an incentive to rely on extrinsic evidence of claim meaning.⁸⁵

82. *Id.* at 841–42.

83. *Id.*

84. *See supra* note 20 and accompanying text.

85. The discerning reader will appreciate that this analysis raises some questions suitable for future empirical analysis. One such question is whether patent cases will really get cheaper for district courts if they emphasize extrinsic evidence concerning claim meaning and are more often affirmed on appeal. It is difficult to say for sure, and district judges will likely, consciously or

The parties to district court patent litigation also have an enlarged incentive, following *Teva*, to introduce extrinsic evidence concerning claim meaning and to argue that such evidence is critical to the outcome of claim construction.

One reason why is that *Teva* affords parties greater strategic flexibility in patent cases. Prior to *Teva*, parties needed to focus their arguments over the meaning of claim terms and the proper construction of patent claims on the patent document only.⁸⁶ That is, on the evidence intrinsic to the patent: the claims, specification, and to a lesser extent, the prosecution history. After *Teva*, parties have the incentive to introduce extrinsic evidence and make arguments about its role in claim construction, as well as make arguments based on the intrinsic evidence. The party that wins in the district court can be expected to emphasize that findings made from the extrinsic evidence were critical to the district court's construction. The party that loses will presumably contend that the factual findings were clearly erroneous, and in any event cannot be reconciled with intrinsic evidence that shows how a skilled artisan would understand the term "*in the context of the specific patent claim under review.*"⁸⁷ The strategic flexibility offered by the use of extrinsic evidence—in effect, an additional alternative argument favoring a preferred claim construction—should be appealing to lawyers because it logically offers more chances at winning—or not losing—a case.

Another reason parties will be encouraged to introduce extrinsic evidence and to argue that such evidence is critical to the outcome of claim construction is because *Teva* suggests that judgments based on extrinsic evidence are more likely to be sustained on appeal. The *Teva* court observes that extrinsic evidence-based fact finding should at least sometimes be "close to dispositive" of claim meaning,⁸⁸ and *Teva* requires appellate courts to give such fact finding deferential review.⁸⁹ It is thus reasonable to expect that if parties can secure favorable judgments from district courts that emphasize the importance of subsidiary fact finding to the ultimate construction of patent claims, such judgments should be at least somewhat more likely to be sustained on appeal. The expectation of greater procedural certainty should be attractive to attorneys and their clients because it increases the value of favorable judgments and improves leverage in subsequent negotiations.⁹⁰

otherwise, account for whatever extra costs are entailed by the greater use of extrinsic evidence in claim construction, but enough patent scholars and observers appear to believe so that we think it fair to say that there is a felt consensus that the answer is "yes."

86. *Teva*, 135 S. Ct. at 835.

87. *Id.* at 841.

88. *Id.* at 841–42.

89. *Id.* at 842.

90. On the losing side, it may also offer better information about whether to continue or settle a case.

Yet another reason why parties to district court patent litigation should be expected to introduce extrinsic evidence of claim meaning more often post-*Teva* is that, generally speaking, it is going to be in lawyers' interests to do so.

This argument draws on several points, some of which have already been established. To begin with, judges have an enlarged incentive to rely on extrinsic evidence concerning claim meaning and to argue that such evidence is critical to the outcome of claim construction. That judges are likely to prefer deciding claim constructions in a manner that emphasizes the importance of extrinsic evidence creates an incentive for parties to offer a means of satisfying that preference in a way that aligns with the parties' own goals for the case. The incentive to gain advantage in a case by satisfying judicial preferences for certain types of evidence and argument amplifies the already strong incentives—tactical flexibility and the higher probability that a favorable judgment is sustained on appeal—that parties have to rely on extrinsic evidence of claim meaning.

Parties' robust incentive to introduce and rely on extrinsic evidence of claim meaning so far discussed may be compounded by the fact that if one party to a case succumbs to the incentive, the other party might conclude that it is necessary to respond in kind. Failing to do so not only leaves a potentially dispositive argument out of the case; it leaves out the sort of argument that might be the most attractive to the judge. In failing to introduce an extrinsic evidence-based argument, a party also fails to offer an alternative to an opposing factual presentation and misses an opportunity for fact-based advocacy. Many lawyers may not want to miss these opportunities and may feel compelled to include in patent cases extrinsic evidence of claim meaning.

Finally, it must be noted that the additional litigation encouraged by *Teva* offers the possibility of additional fees for lawyers. As it is natural for lawyers to attempt to earn as much as possible, it seems inevitable that patent lawyers will begin to counsel clients that it is necessary to take on the extra costs of introducing extrinsic evidence concerning claim meaning and arguing that such evidence is critical to the outcome of claim construction.

In sum, it is reasonable to think that post-*Teva*, the parties to district court patent litigation have a sizeable incentive to introduce and rely on extrinsic evidence of claim meaning.

B. *The Development of Process*

The incentives just developed are likely to encourage the broad appearance of a particular methodology of claim construction in patent cases. The methodology likely to emerge will take the form of a *process* by which claim construction will often be accomplished.

The reasons underlying this argument are straightforward. To begin with, as discussed above, parties will have robust incentives to introduce extrinsic evidence of claim meaning and to argue that such evidence is critical to the outcome of claim construction.

Next, *Teva* is clear that for a large set of patent claim terms there are two legally relevant meanings that relate in a way that suggests the development of a process for assessing claim meaning.

The first is the “general . . . meaning to a person of ordinary skill in the art at the time of the invention.”⁹¹ The court may determine this meaning from extrinsic evidence, and that conclusion is either a “factual finding” or, if not, very closely bound to the “factual finding[s]” for which *Teva* requires appellate deference.⁹²

But once the district court has established this general meaning, it “must then conduct a legal analysis: whether a skilled artisan would ascribe that same meaning to that term *in the context of the specific patent claim under review*,”⁹³ to arrive at the second, and ultimate, meaning of the claim term. The determination of this second meaning is an act of construction, and is, according to *Teva*, a question of law that is reviewed de novo.⁹⁴ The second meaning can therefore “overrule” the first, general meaning, but it appears that it should not unless “the context of the specific patent claim under review”—mainly the intrinsic evidence—shows that a person of skill in the art would not “ascribe that same meaning to that term.”⁹⁵

Under this rather straightforward reading of *Teva*, it would seem that in cases in which a general, or ordinary, meaning of patent claim language is found to have existed at the time of invention, that meaning is, in an important sense, presumably the correct one, although it can be displaced if it conflicts with the intrinsic evidence.

Keeping all this in mind, the process we expect to emerge at the district courts may look much like this:

(1) Parties will seek to introduce extrinsic evidence concerning the general meaning that patent claim language would have had to ordinarily skilled artisans at the time of invention, and argue that it is critical to the outcome of claim construction.

(2) The district court will consider this evidence and argument, and the district judge may make factual findings concerning the general meaning of claim terms at the time of invention.

(3) The district court will examine the claims, specification, and to a

91. *Teva*, 135 S. Ct. at 841.

92. *Id.*

93. *Id.*

94. *Id.*

95. *Id.* (emphasis omitted).

lesser extent the prosecution history to ascertain whether the general (at the time of invention) meaning is the same meaning “a skilled artisan would ascribe . . . *in the context of the specific patent claim under review.*”⁹⁶

(4) If the answer is “yes,” the district court will likely craft an order explaining the importance of the extrinsic evidence and further explaining how the intrinsic evidence comports with the conclusion. If the answer is “no,” the district judge will have an incentive to explain why not, and given the structure of the analysis so far described, that will probably require explaining how the ordinary meaning of the claim terms—determined perhaps in part from extrinsic evidence—are “overruled” by the intrinsic evidence.⁹⁷

As district courts offer, and the Federal Circuit reviews, reasons why intrinsic evidence overrules (or not) extrinsic evidence establishing the meaning that claim terms had to a person of ordinary skill in the art at the time of the invention, the Federal Circuit will likely reject some reasons, accept others, and elaborate its own.⁹⁸ These precedents will further define legal justifications for departing from a claim term’s ordinary meaning at the time of invention, and naturally feed back on district court decision-making, reinforcing the process *Teva*’s incentives encourage.

Another significant feature of the process *Teva* encourages is that, in practice, it implies a presumption. Because the touchstone of claim construction is the meaning a term would have to a person of ordinary skill in the art at the time of invention,⁹⁹ and because the role of extrinsic evidence-based fact-finding is to support that *particular* determination in general terms,¹⁰⁰ the extrinsic evidence-supported “meaning of a term in the relevant art”¹⁰¹ is arguably the correct meaning of the term until “the

96. *Id.*

97. It should be clear that this procedure includes the possibility that a district judge might sometimes decide to waive consideration of otherwise competent extrinsic evidence that conflicts with a claim definition a judge favors that is based on only intrinsic evidence. In such cases, we think it will be natural for a judge to think it necessary to explain why the idiosyncratic definition from the intrinsic evidence is superior to the ordinary meaning of the term. This sort of judicial behavior is synonymous with the process described here.

98. The Federal Circuit has developed several of these already in connection with its proceduralist approach to claim construction. *See, e.g., infra* note 104 and accompanying text.

99. This is the touchstone of claim construction. *See Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004) (“A court construing a patent claim seeks to accord a claim the meaning it would have to a person of ordinary skill in the art at the time of the invention.”); *see also Teva*, 135 S. Ct. at 841 (acknowledging that extrinsic evidence will sometimes need to be consulted to “understand . . . the meaning of a term in the relevant art during the relevant time period”).

100. *Teva*, 135 S. Ct. at 841.

101. *Id.*

context of the specific patent claim under review”¹⁰² can show why the art-specific meaning should be adjusted to one idiosyncratic to the patent.

If this approach to claim construction looks familiar, that is because it is very similar to the proceduralist approach to claim construction used by a majority of Federal Circuit panels since *Markman*. Described earlier, that approach involves determining the general, commonly understood meaning that patent claim language would have had to ordinarily skilled artisans at the time of invention and heavily presuming¹⁰³ that this “ordinary” meaning is the controlling one unless there is a legally justifiable reason to depart from it. Case law across the last two decades has developed legally justifiable reasons to depart, almost all founded on the public-notice function of intrinsic evidence.¹⁰⁴ Thus, generally speaking, under a procedural approach claim terms are construed to have the meaning they would have had to a person of ordinary skill in the art at the time of the invention “unless the patentee unequivocally imparted a novel meaning to those terms or expressly relinquished claim scope during prosecution.”¹⁰⁵

The procedural approach, moreover, has always contained a role for extrinsic evidence:

The inquiry into the meaning that claim terms would have to a person of skill in the art at the time of the invention is an objective one. This being the case, a court looks to those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean. Those sources include the words of the claims themselves, the remainder of the specification, the

102. *Id.*

103. Federal Circuit claim construction jurisprudence has long contained a “heavy presumption” in favor of the ordinary meaning of claim terms. *See, e.g.,* *Mass. Inst. of Tech. v. Shire Pharm., Inc.*, 839 F.3d 1111, 1118 (Fed. Cir. 2016); *Starhome GmbH v. AT&T Mobility LLC*, 743 F.3d 849, 856–57 (Fed. Cir. 2014); *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 989 (Fed. Cir. 1999).

104. Some cases recognize that a patentee might explicitly define a term in a patent. *See, e.g.,* *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 397 (Ct. Cl. 1967) (“[P]atent law allows the inventor to be his own lexicographer.”). Others observe that a patentee might clearly state in a patent that described embodiment as the only possible embodiment of the invention. *See, e.g.,* *Liebel–Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 905–09 (Fed. Cir. 2004); *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1344 (Fed. Cir. 2001) (stating, in the written description, “[the] structure . . . is ‘the basic . . . structure for all embodiments’”); *Watts v. XL Sys., Inc.*, 232 F.3d 877, 883 (Fed. Cir. 2000) (stating, in the written description, “[t]he present invention utilizes [the] feature”); *see also* *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323–24 (Fed. Cir. 2003) (requiring clear and unmistakable disavowal of claim scope during prosecution in order to overcome the “heavy presumption” that claim terms carry their ordinary and accustomed meaning).

105. *Omega Eng’g, Inc.*, 334 F.3d at 1323.

prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.¹⁰⁶

Of course, before *Teva*, the resolution of factual disputes involving extrinsic evidence was fully encompassed within the judicial act of document construction, as *Markman* suggested, and thus fell within an appellate court's de novo review of claim construction.¹⁰⁷ Nevertheless, even when all of claim construction was reviewed de novo, a majority of Federal Circuit panels used an approach to claim construction that often utilized—and always permitted—the use of extrinsic evidence to answer a fundamental question of claim construction: the ordinary meaning of a term to a person of ordinary skill in the art at the time of the invention.¹⁰⁸ Moreover, the panels that approach claim construction this way treat the ordinary meaning as controlling, subject only to an investigation of any idiosyncrasies that might surround a claim term's use in the patent.

The basic point here is that the *process* for establishing claim meaning encouraged by *Teva* aligns well with what a majority of Federal Circuit panels have done since *Markman*. Federal Circuit jurisprudence therefore already contains a procedure for determining claim meaning that is easily adaptable to the incentives provided by *Teva*. The existence of a path of least resistance may serve to further inculcate the process.

In sum, therefore, the argument is that *Teva* can encourage the broad appearance in patent cases of the methodology of claim construction described above. In the interest of avoiding any confusion, however, it must be clear that the argument is not that *Teva* requires the use of this process in every case. For example, in some cases, a patent's idiosyncratic definition of a claim term will be clear from the intrinsic evidence—perhaps, for example, when a patent applicant includes an express definition in the specification or clearly establishes a relevant limit to meaning in the prosecution history. In others, the meaning of a disputed claim term to a person of ordinary skill in the art at the time of the invention might be accessible to a court because the term is a simple one—for example, “or,” “and,” or “connector”—and does not leave much

106. See, e.g., *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004).

107. See *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454–56 (Fed. Cir. 1998).

108. For example, many courts use dictionaries during claim construction. See *Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co.*, 308 F.3d 1167, 1177 n.4 (Fed. Cir. 2002) (“Although technically a form of extrinsic evidence, dictionaries hold a special place in claim construction . . .”); see also *Pitney Bowes, Inc. v. Hewlett Packard Co.*, 182 F.3d 1298, 1309 (Fed. Cir. 1999) (“[C]onsultation of extrinsic evidence is particularly appropriate to ensure that [the judge’s] understanding of the technical aspects of the patent is not entirely at variance with the understanding of one skilled in the art.”).

room for the argument that the term had a special technical meaning to skilled artisans at the time of invention.¹⁰⁹

As most of those familiar with the patent system already know, however, it is usually not the case for litigated patents that the intrinsic evidence unambiguously shows the meaning of claim terms. The intrinsic evidence more commonly allows both parties to develop plausible (and conflicting) definitions for claim terms and offers courts few tools to fairly distinguish between the two. Judge Mayer acknowledged this fact in his *Phillips* dissent, which argues that claim construction cannot be fairly accomplished as long as appellate courts are “blind to the factual component of the task,”¹¹⁰ and that for this reason Federal Circuit claim constructions “resemble reality, if at all, only by chance.”¹¹¹ This fact might also help to explain why roughly two-thirds of Federal Circuit panels have already opted for an approach to claim construction that uses extrinsic evidence to help determine the generally accepted meaning that disputed claim terms held for ordinarily skilled artisans at the time of invention, and largely sticks with that definition unless the context offers a compelling reason to depart from it.

So, while courts will doubtlessly decide some future cases based on idiosyncratic definitions that courts derive from patent specifications, because of the incentives provided by *Teva*, as time passes, more cases will likely involve factual findings that play an influential “role in a judge’s ultimate legal conclusion.”¹¹²

III. THE BROADER IMPLICATIONS OF *TEVA*

The changes to the *methodology* of claim construction encouraged by *Teva* are likely, generally, to be positive. By anchoring claim meaning in objective evidence and following an established process for evaluating claim terms, the methodology should result in more predictability in litigation-driven claim construction, better drafted patent claims in the longer term, and ultimately, a patent law that more finely tunes the system of incentives it is supposed to regulate. These are all changes that, if realized, should be welcomed by the patent system, most of its participants, and the public.

The methodology encouraged by Teva is likely to result in more predictability in litigation-driven claim construction. A central justification for this argument is the observation that the methodology

109. In still other cases, a judge might reach the conclusion that it is efficient to attempt an intrinsic-evidence-only claim construction. The Federal Circuit affirms the overwhelming majority of district court claim constructions as it is, so it could make sense to proceed this way when the costs of the relevant evidentiary hearings are taken into account.

110. See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1331 (2005) (Mayer, J., dissenting).

111. *Id.* at 1330.

112. See *Teva Pharm. USA, Inc. v Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

anchors ultimate determinations of claim construction to an objective assessment of extrinsic evidence concerning the meaning a term would have to a person of ordinary skill in the art at the time of the invention. The question of the meaning of a term to a skilled artisan at the time of invention is most readily conceptualized as a question of historical fact. The determination of historical fact is precisely the sort of question that our legal system traditionally imagines is most reliably and accurately answered by the adversarial presentation of evidence. If this traditional view is correct, it follows that the meaning of a term at the time of invention should, generally, be more reliably and accurately determined when claim analysis is anchored to an objective assessment of extrinsic evidence than it will be by an alternative that relies upon judicial selection from a range of patent idiosyncratic definitions without any resort to extrinsic evidence. This might be especially so when the judicial choice is constrained (largely) to patent idiosyncratic definitions developed by talented lawyers years after a patent has issued, to serve the purposes of litigation, and when the only guide for the court is the same intrinsic evidence the parties have used to support their conflicting definitions.

While the post-*Teva* mode of claim construction also requires an analysis of how a claim term is used “in the context of the specific patent claim under review,”¹¹³ that analysis may now often be undertaken with the meaning the claim term generally had to a person of skill in the art at the time of the invention as something of a starting point. As reasons for choosing between extrinsic evidence-supported meanings and intrinsic evidence-supported meanings develop, ultimate determinations could well become even more predictable, both at the district court, and on appeal.

Should this speculation be correct, the greater predictability that results from the use of the *Teva*-encouraged methodology could have the beneficial effect of discouraging some lawsuits, because both parties will have better information about infringement and liability. And even where lawsuits have been initiated, they might come to a quicker, and therefore often cheaper, close.

The methodology encouraged by Teva is ultimately likely to encourage better-drafted patent claims. This argument builds upon the possibility of an increase in predictability. To the extent the methodology encouraged by *Teva* leads to greater predictability in the determination of the meaning of patent claims, there are at least two likely consequences. First, patent applicants will need to be warier than they presently are about overclaiming. Applicants who use technical terms of broad or vague meaning can, after *Teva*, more reliably expect to be held to the full scope of that language in patent litigation. This should encourage the

113. *Id.*

judicious use of limiting language to cabin or more precisely define terms that would under some interpretations render a patent claim invalid. Second, the greater predictability that may follow from the methodology encouraged by *Teva* offers patent applicants the possibility of greater certainty in the value of their patents. This is so because the methodology *Teva* encourages, with its focus on the line between extrinsic and intrinsic evidence and how extrinsic evidence should be understood within the context of the patent, should ultimately produce a jurisprudence that teaches patent applicants how to claim in a way that reliably provides the rights they are seeking—subject, of course, to what the prior art allows.

The methodology encouraged by Teva may help patent law more finely tune the incentive structure of the patent system. By conventional accounts, the patent system is supposed to “promote the progress of science and the useful arts, by securing for limited times to . . . inventors the exclusive right to their respective . . . discoveries.”¹¹⁴ In other words, the purpose of granting exclusive rights to inventors is to secure public benefits. Broadly speaking, the public benefits involved are advancements in science and technology, and patent law secures these benefits by granting an “exclusive right” that creates an opportunity for inventors to recoup the costs undertaken to bestow the benefits upon the public, and beyond that, to profit.

An optimal patent system balances the costs of exclusive rights with the benefits the granting of those rights confers on the public, and tries to maximize the difference. Accomplishing this task is commonly understood to be the job of patent law.

The argument made here is simple. Given the choice between a patent law that produces a larger number of spurious claim constructions, and a patent law that produces a smaller number of spurious claim constructions, the patent law that produces the smaller number of spurious claim constructions more finely tunes the incentive structure.

To be clear, the argument is not that the difference between the costs and benefits of granting exclusive rights would be optimized if the current patent law were unerringly applied. The argument is merely that a patent system that more reliably and accurately predicts the scope of a patent’s exclusive right more effectively regulates the patent system’s incentive structure than does a system that less reliably and less accurately predicts the scope of the patent’s exclusive right.

This Article began by explaining how claim construction is central to patent law’s efforts to balance private rights with public interests. Incorporating all that was said there about how claim construction is central to the operation of nearly all patent doctrines, it requires little more to point out that when claim construction is more predictable, all

114. U.S. CONST. art. I, § 8, cl. 8.

the other levers of patent law—those that must work well for the costs and benefits of the law to be properly felt—are more likely to be effective.

CONCLUSION

This Article has closely examined the *Teva* holding and attempted to situate it within modern claim construction jurisprudence. The analysis has resulted in the novel thesis that *Teva* is likely to have a heretofore unforeseen and substantial impact on the methodology of patent claim construction. Moreover, this Article speculates that the *Teva*-encouraged changes to claim construction methodology are generally positive for the patent system because they should encourage a patent law that more finely tunes the system of incentives it is supposed to regulate.