

January 2017

## The Only Certainty is Uncertainty: Patent Claim Construction in the United States Court of Appeals for the Federal Circuit

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### Recommended Citation

Booth, Rainey C. Jr. (2017) "The Only Certainty is Uncertainty: Patent Claim Construction in the United States Court of Appeals for the Federal Circuit," *Journal of Technology Law & Policy*. Vol. 21: Iss. 2, Article 4.

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**THE ONLY CERTAINTY IS UNCERTAINTY: PATENT CLAIM  
CONSTRUCTION IN THE UNITED STATES COURT OF  
APPEALS FOR THE FEDERAL CIRCUIT**

*Rainey C. Booth, Jr.\**

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**INTRODUCTION**

The law of patent claim construction has been in flux over the past twenty years.<sup>1</sup> Patent claim construction is integral to the function of the patent system.<sup>2</sup> Patent claims are the elements of the patent document that

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1. See, e.g., *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996); *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831 (2015); *Vitronics Corp. v. Conceptronc, Inc.*, 90 F.3d 1576 (Fed. Cir. 1996); *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448 (Fed. Cir. 1998) (en banc); *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir.2005) (en banc).

2. See, e.g., Kimberly A. Moore, *Are District Court Judges Equipped to Resolve Patent*

define the boundaries of the holder's property rights.<sup>3</sup> As such, claim construction has the potential to be outcome determinative in a majority of patent litigation.<sup>4</sup> The U.S. Court of Appeals for the Federal Circuit, originally created by Congress with the intent to provide uniformity and predictability to this area of the law,<sup>5</sup> has been increasingly reviewed and reversed by the Supreme Court.<sup>6</sup> Concurrently, the Federal Circuit has been reversing the district courts on matters of claim construction at a very high rate.<sup>7</sup> The Federal Circuit's high reversal rate, combined with the increasing intervention by the Supreme Court in cases concerning intellectual property law, has frustrated the objectives of Congress in creating the court. The law surrounding patent claim construction is particularly uncertain, creating inefficiencies by increasing litigation.

All this uncertainty sprouted from one case, *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996) (*Markman II*). A close reading of this case reveals a fundamental flaw in reasoning that, when reexamined, leads to the conclusion that this uncertainty could be remedied. This Note argues that the decision in *Markman II* was based substantially on a faulty premise: that judges, as opposed to juries, are better equipped to construe patent claims. Part I of this Note summarizes the law of patent claim construction, with an emphasis on the Court's opinion in *Markman II*. In Part II, this Note suggests this premise of judicial superiority espoused in *Markman II* has been refuted by the data on the analysis of the U.S. Court of Appeals for the Federal Circuit. In Part III, this Note argues in favor of reversing *Markman II* and extending the Seventh Amendment right to a jury trial on issues of patent claim construction.

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*Cases?*, 15 HARV. J.L. & TECH. 1, 8 (2001) (asserting that claim construction is the most important subsidiary issue in an infringement suit).

3. *Markman*, 517 U.S. at 372.

4. See, e.g., *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 989 (Fed. Cir. 1995) (Mayer, C.J., concurring) ("[T]o decide what the claims mean is nearly always to decide the case."); Christian A. Chu, *Empirical Analysis of the Federal Circuit's Claim Construction Trends*, 16 BERKELEY TECH. L.J. 1075, 1154 (2001); Peter S. Menell et al., *Patent Claim Construction: A Modern Synthesis and Structured Framework*, 25 BERKELEY TECH. L.J. 711, 714 (2010).

5. E.g., *Markman*, 517 U.S. at 390.

6. See, e.g., Timothy R. Holbrook, *The Return of the Supreme Court to Patent Law*, 1 AKRON INTELL. PROP. J. 1, 2, 25 (2007); Kevin R. Casey & Kevin B. Anderson, *The Supreme Court's Six-Pack of Cases*, 27 INTELL. PROP. & TECH. L.J. 9, 9 (2015).

7. E.g., Chu, *supra* note 4; Moore, *supra* note 2, at 1; Kimberly A. Moore, *Markman Eight Years Later: Is Claim Construction More Predictable?*, 9 LEWIS & CLARK L. REV. 231 (2005); Jeffrey A. Lefstin, *Claim Construction, Appeal, and the Predictability of Interpretive Regimes*, 61 U. MIAMI L. REV. 1033 (2007); David L. Schwartz, *Practice Makes Perfect? An Empirical Study of Claim Construction Reversal Rates in Patent Cases*, 107 MICH. L. REV. 223 (2008).

## PART I

### A. Patent Claim Construction Under *Markman II*

In 1996, the Supreme Court issued its unanimous landmark decision in *Markman II* holding patent claim construction is a matter of law exclusively reserved for the judge to determine.<sup>8</sup> At issue in *Markman II* was whether construction of a patent was a matter of law reserved entirely for the judge, or whether it was “subject to a Seventh Amendment guarantee that a jury will determine the meaning of any disputed term of art about which expert testimony is offered.”<sup>9</sup> The petitioner in this patent infringement suit, Markman, owned a patent for his “Inventory Control and Reporting System for Drycleaning [sic] Stores.”<sup>10</sup> The respondent created a similar product for dry cleaning stores.<sup>11</sup> The issue of infringement hinged primarily on the word “inventory” contained in Independent Claim 1 of Markman’s patent.<sup>12</sup>

The jury found that Westview’s product infringed Markman’s valid patent, but the district court granted Westview’s motion for judgment as a matter of law based on the court’s own construction of “inventory.”<sup>13</sup> The court reasoned that Markman’s patent claimed a system with the ability to track the individual articles of clothing, or “inventory,” through every step of the cleaning process.<sup>14</sup> As Westview’s product in no way tracked the articles of clothing, its product did not infringe Claim 1 of Markman’s patent.<sup>15</sup>

Markman appealed to the U.S. Court of Appeals for the Federal Circuit, arguing it was error for the district court to substitute its construction of the disputed term for the jury’s.<sup>16</sup> The Federal Circuit affirmed the district court’s rulings (*Markman I*), stating that patent claim construction was a pure issue of law to be reviewed *de novo* on appeal.<sup>17</sup> The Federal Circuit reasoned that the Seventh Amendment did not mandate a jury trial on issues of patent claim construction,<sup>18</sup> and that consistency of claim construction would be better served by judicial construction.<sup>19</sup>

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8. *Markman*, 517 U.S. at 372.

9. *Id.*

10. *Id.* at 374.

11. *Id.*

12. *Id.* at 375.

13. *Id.*

14. *Id.*

15. *Id.*

16. *Id.* at 376.

17. *Markman v. Westview Instruments*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc).

18. *Id.* at 984.

19. *Id.* at 978.

Subsequently, *Markman* sought review in the Supreme Court.<sup>20</sup> Writing for a unanimous court, Justice Souter analyzed whether there was a right to a jury trial under the Seventh Amendment on issues of patent construction.<sup>21</sup> The Seventh Amendment analysis consists of a two-part inquiry. First, the Court asks “whether we are dealing with a cause of action that either was tried at law at the time of the founding or is at least analogous to one that was.”<sup>22</sup> If the Court determines that the action was historically tried at law, then the Court asks whether that particular decision must fall to the jury to preserve the substance of the right as it existed in 1791.<sup>23</sup> Under the first inquiry, the Court stated the ultimate issue of patent infringement was inarguably an issue which was historically tried by a jury, so the Seventh Amendment undeniably attaches to that issue.<sup>24</sup>

As construction of the patent’s claims is a necessary predicate to determining the ultimate issue of infringement, the Court next considered whether a particular issue contained in a jury trial is also necessarily an issue for the jury.<sup>25</sup> Justice Souter described the task of patent construction as a “mongrel practice,”<sup>26</sup> and argued the closest 18th century analogue to modern claim construction was the construction of patent specifications.<sup>27</sup> After briefly describing the lack of historical support for construction of specifications by juries,<sup>28</sup> the Court argued there was at least some evidence judges were historically charged with construing patent specifications.<sup>29</sup> Thus, the Court determined the Seventh Amendment did not guarantee a right to have patent claim construction tried to a jury.<sup>30</sup>

Accordingly, the Court moved on to examine the relative abilities of judges and juries to construe patent claims. Justice Souter wrote when “history and precedent provide no clear answers, functional considerations also play their part in the choice between judge and jury to define terms of art.”<sup>31</sup> In arguing that judges are much better suited to construe patents, Justice Souter dismissed the traditional arguments supporting jury determinations.<sup>32</sup> He reasoned that credibility decisions

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20. *Markman*, 517 U.S. at 376.

21. *Id.* at 372.

22. *Id.* at 376.

23. *Id.*

24. *Id.* at 377.

25. *Id.*

26. *Id.* at 378.

27. *Id.* at 379.

28. *Id.* at 379–80.

29. *Id.* at 382.

30. *Id.* at 383.

31. *Id.* at 388.

32. *Id.* at 388–89.

would be necessary only in the rarest cases.<sup>33</sup> He also argued that *stare decisis* would be a better guarantee of uniform construction of similar or identical terms than issue preclusion.<sup>34</sup> Thus, the Court ruled that patent claim construction was a matter of law solely for the judge to determine. Importantly, however, the Court did not address the standard of review to be applied to issues of patent construction on appeal.<sup>35</sup>

### B. *Post-Markman II* Jurisprudence

Following the Court's decision in *Markman II*, the Federal Circuit was left to decide which standard of review to apply when confronted with patent construction issues on appeal. In 1998, the Federal Circuit decided *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448 (Fed. Cir. 1998) (en banc), reaffirming its assertions from *Markman I* that, as a pure issue of law, *de novo* review applied to patent claim construction. In *Cybor*, the Federal Circuit determined it was necessary to address which standard of review to apply when reviewing patent claim constructions of the district courts.<sup>36</sup> The Federal Circuit, sitting en banc, reasoned that the Supreme Court implicitly approved of its assertions in *Markman I* that patent claim construction was a purely legal question to be reviewed *de novo*.<sup>37</sup> The Federal Circuit explicitly stated that no deference should be afforded to any of the district court's determinations on issues of claim construction.<sup>38</sup>

Chief Judge Mayer, concurring in the judgment but writing separately to address the Federal Circuit's reading of *Markman II*, stated that the en banc majority "profoundly misapprehend[ed]" *Markman II*.<sup>39</sup> Judge Mayer correctly summarized the basis of the Supreme Court's holding in *Markman II* as follows:

The Supreme Court concluded there that the historical record is insufficiently firm to declare that juries construed patent claims in England when the Seventh Amendment to the Constitution was adopted in 1791. So it decided as a matter of *policy* that judges, not juries, are better able to perform this task given the complexity of evidence and documentation.<sup>40</sup>

He then argued that juries are regularly charged with interpreting

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33. *Id.* at 389–90.

34. *Id.* at 391.

35. *Id.*

36. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454–55 (Fed. Cir. 1998) (en banc).

37. *Id.* at 1455.

38. *Id.*

39. *Id.* at 1463.

40. *Id.* at 1463–64.

evidence and testimony on issues with greater complexity than patent claim term construction.<sup>41</sup> Notwithstanding these faults with the *Markman II* logic, Judge Mayer next pointed out that the Federal Circuit was bound by the Supreme Court's holding in *Markman II*, not its own opinion in *Markman I*, as the Court did not adopt the Federal Circuit's reasoning, in whole or in part.<sup>42</sup> He pointed out that the Court was silent in *Markman II* as to the standard of review going forward, and observed that the Court could not have intended to amend the Federal Rules of Civil Procedure or Evidence with respect to district court fact finding in *Markman II*.<sup>43</sup> For these reasons, he argued that the standard of review should be *de novo* for the construction of the entire patent, but should be "clear error" for review of underlying factual determinations of disputed facts by the district courts.<sup>44</sup>

In 2014, the Federal Circuit again reaffirmed its rulings from *Markman I* and *Cybor* in its decision in *Lighting Ballast Control v. Philips Elecs. N. Am. Corp.*, 744 F.3d 1272 (Fed. Cir. 2014) (en banc). The Federal Circuit agreed to reconsider *Cybor*, and invited briefing and amicus curiae on the matter.<sup>45</sup> The Federal Circuit considered three different approaches to the standard of review for patent claim term construction.<sup>46</sup> The first, asserted by Lighting Ballast, characterized construction of the patent document as a totally factual determination made by the district court pursuant to *Markman II* and, as such, a "clear error" standard of review should be applied.<sup>47</sup>

The second approach, which was argued by the United States and others, consisted of a hybrid standard under which the "clear error" standard would apply to any factual determinations made by the district court pursuant to Rule 52(a), but the *de novo* standard would apply to construction of the patent as a whole.<sup>48</sup> The third and final approach, supported by some curiae, asserted that the Federal Circuit's holding in *Cybor* was both reasonable and correct.<sup>49</sup> The proponents of the third approach also argued that there was insufficient reasons presented to overrule *stare decisis*. Thus, claim construction should remain a purely legal issue reviewed *de novo*.<sup>50</sup>

The Federal Circuit correctly framed the issue, not as what standard

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41. *Id.* at 1464.

42. *Id.*

43. *Id.*

44. *Id.*

45. *Lighting Ballast Control v. Philips Elecs. N. Am. Corp.*, 744 F.3d 1272, 1276 (Fed. Cir. 2014) (en banc).

46. *Id.* at 1277.

47. *Id.* at 1277–78.

48. *Id.* at 1278.

49. *Id.* at 1279.

50. *Id.*

of review to adopt for patent construction, but rather whether to disregard *stare decisis* and change the standard of review after fifteen years of *Cybor*.<sup>51</sup> With the question framed this way, it comes as no surprise that the Federal Circuit reaffirmed *Cybor*, declined to extend any deference to the district courts' subsidiary factual determinations, and clung to its *de novo* standard of review over patent claim construction.<sup>52</sup>

### C. The New Hybrid Standard of Review for Patent Claim Construction

After staying silent on the matter for almost two decades, the Supreme Court finally stepped in and clarified the standard of review for patent construction in *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831 (2015). This case revolved around the term “molecular weight” contained in a patent owned by Teva Pharmaceuticals. The Teva patent claimed a method of producing a drug used to treat multiple sclerosis.<sup>53</sup> The relevant language in the patent claim described a polymer with “a molecular weight of 5 to 9 kilodaltons.”<sup>54</sup> The respondents, Sandoz, decided to market a generic version of the drug, and subsequently Teva sued for infringement.<sup>55</sup>

The respondents defended the suit by arguing the patent claims containing the term were invalid due to indefiniteness.<sup>56</sup> They claimed that “molecular weight,” in the context of this patent, could have one of three meanings:

The phrase might refer (1) to molecular weight as calculated by the weight of the molecule that is most prevalent in the mix that makes up copolymer-1 . . . The phrase might refer (2) to molecular weight as calculated by taking all the different-sized molecules in the mix that makes up copolymer-1 and calculating the average weight, i.e., adding up the weight of each molecule and dividing by the number of molecules . . . Or, the phrase might refer (3) to molecular weight as calculated by taking all the different sized molecules in the mix that makes up copolymer-1 and calculating their average weight while giving heavier molecules a weight-related bonus when doing so.<sup>57</sup>

The district court held the patent claims were sufficiently definite, as

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51. *Id.* at 1281.

52. *Id.* at 1285.

53. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 835 (2015).

54. *Id.*

55. *Id.*

56. *Id.* at 835–36.

57. *Id.*



a person of ordinary skill in the art would understand the term “molecular weight” was calculated pursuant to the first method.<sup>58</sup> Therefore, the trial court held that the patent was valid.<sup>59</sup>

On appeal, the Federal Circuit found the opposite.<sup>60</sup> The Federal Circuit discounted the district court’s subsidiary findings and held the term “molecular weight” was indefinite, so the claims at question were therefore invalid.<sup>61</sup> In reaching this conclusion, the Federal Circuit reviewed *de novo* all the findings of the district court, including the underlying factual findings.<sup>62</sup> The Supreme Court, therefore, was confronted with the question that the Federal Circuit had considered answered since its ruling in *Lighting Ballast* affirming *Cybor*.<sup>63</sup>

The Court began its analysis by citing to Federal Rule of Civil Procedure Rule 52(a)(6),<sup>64</sup> which requires appellate courts to defer to the factual findings of the district courts unless they are “clearly erroneous.”<sup>65</sup> The Court reiterated that Rule 52(a)(6) expresses a clear command to all appellate courts and applies to all factual findings, indiscriminately.<sup>66</sup> The Court stated “[o]ur opinion in *Markman* neither created, nor argued for, an exception to Rule 52(a).”<sup>67</sup>

Before describing the required hybrid standard mandated by the combination of Rule 52(a) and *Markman II*, the Court clarified what it actually decided in *Markman II*. Specifically, the Court repeated the arguments that, as a matter of policy, judicial construction of patent claims is the superior option.<sup>68</sup> The analogy to construction of other legal instruments, including contracts (which was hardly mentioned in *Markman II*) was the main supporting argument in this part of the opinion.<sup>69</sup> Ironically, some of the arguments supporting juries as fact finders, which were discounted by the Court in *Markman II*, were asserted here by the Court to argue for deference to the district courts.<sup>70</sup>

Finally, the Court explained how the new hybrid standard was to be applied in the future by the Federal Circuit. The Federal Circuit had argued that parsing between factual findings and legal conclusions would

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58. *Id.*

59. *Id.*

60. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 723 F.3d 1363, 1363–64 (Fed. Cir. 2013).

61. *Id.* at 1369.

62. *Id.*

63. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 836 (2015).

64. *Id.*

65. FED. R. CIV. P. 52(a)(6).

66. *Teva*, 135 S. Ct. at 836.

67. *Id.* at 837.

68. *Id.*

69. *Id.*

70. *See id.* at 838 (citing *Markman II* for the proposition that the fact-finder will be required to make “credibility judgments” between expert witnesses).

be too difficult a task.<sup>71</sup> The Court responded by pointing out that courts of appeal have long made this distinction and successfully delineated between findings of fact and law.<sup>72</sup> Moving to the procedure, the Court stated the initial task of construction begins with the four corners of the patent.<sup>73</sup> At this initial step, only intrinsic evidence is to be used to construe the claims and their terms.<sup>74</sup> If, after examining the patent, a claim term (or terms) is so technical as to be ambiguous, the district courts may consider extrinsic evidence.<sup>75</sup> This evidence would be used to determine the meaning of the term to people of ordinary skill in the art at the relevant time period.<sup>76</sup> If these underlying facts are disputed, the courts would be required to make subsidiary factual findings as to the credibility of the extrinsic evidence.<sup>77</sup> This subsidiary fact finding will be reviewed for “clear error” on appeal.<sup>78</sup>

## PART II

### *A. Reversal Rates in the U.S. Court of Appeals for the Federal Circuit*

After the Supreme Court’s opinion in *Markman II*, everything changed in the world of patent claim construction. A new procedure was required, consisting of a pretrial hearing to construe the patent, which normally consists of expert testimony and evidence to establish the meaning of disputed terms.<sup>79</sup> This *Markman* hearing is now known as a “trial before the trial.”<sup>80</sup> Most patent practitioners are of the opinion the entire case can be won or lost at this *Markman* hearing.<sup>81</sup> But of course, until the *Teva* decision, both parties had to re-litigate the entire issue of claim construction in the Federal Circuit. Against this backdrop, numerous empirical studies were performed to analyze whether the intended goals of uniformity and efficiency were being accomplished under this process.

An empirical analysis performed in 2010 endeavored to elucidate the pre-*Markman I* reversal rates for patent claim term construction in the

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71. *Id.* at 839.

72. *Id.*

73. *Id.* at 841.

74. *Id.*

75. *Id.*

76. *Id.*

77. *Id.*

78. *Id.*

79. *See, e.g.,* Menell et al., *supra* note 4, at 732.

80. *See, e.g., id.* at 806 (describing the various procedures established in multiple jurisdictions).

81. *See, e.g., supra* note 4.

Federal Circuit.<sup>82</sup> The analysis utilized a database of all patent claim construction cases decided by the Federal Circuit between 1991 and 2008.<sup>83</sup> This study focused on the pre-*Markman I* period from 1991 to 1995,<sup>84</sup> a period of time that many scholars and experts had largely neglected until this study.<sup>85</sup> The results of the analysis statistically showed the pre-*Markman I* reversal rate for patent claim construction in the Federal Circuit was 20.8%.<sup>86</sup> This study also analyzed other time periods as well, finding the reversal rate in the Federal Circuit climbed to 32% in the years between *Cybor* and *Phillips*.<sup>87</sup>

Other studies, which both predated and came after it, have performed similar empirical analyses on post-*Markman II* reversal rates of claim construction in the Federal Circuit. A robust analysis conducted in 2001 delved into the data to determine exactly what was happening two years after *Markman II*.<sup>88</sup> This analysis was limited to a two-year period ranging 1998 to 2000.<sup>89</sup> The analysis showed that the Federal Circuit reversed all cases at a rate of 36.6%,<sup>90</sup> which is quite high. When the analysis was narrowed to just express reversals of claim constructions, the reversal rate fell slightly to 29.6%.<sup>91</sup> Over the two-year period that was analyzed, an increasing trend of reversals was statistically correlated to time.<sup>92</sup> This proved that the Federal Circuit was more likely to reverse a case on the basis of an error in claim construction as time went on.

Another significant analysis from this study focused on the relationship between the types of decisions appealed and the reversal rates. The analysis looked at the reversal rates for summary judgements and jury or bench trials, among other types, to see which was reversed at a higher rate.<sup>93</sup> The study showed the Federal Circuit affirmed 52% of summary judgements and 45% of jury or bench trials during the period.<sup>94</sup> The study also found that once the Federal Circuit found an error in claim construction, it reversed 70% of summary judgements, 67% of bench trials, and 64% of jury verdicts.<sup>95</sup> These extremely high reversal rates, consistent across different types of judgments, can only be explained by

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82. David L. Schwartz, *Pre-Markman Reversal Rates*, 43 LOY. L.A. L. REV. 1073 (2010).

83. *Id.* at 1089.

84. *Id.*

85. *Id.* at 1091.

86. *Id.* at 1093.

87. *Id.*

88. Chu, *supra* note 4, at 1079.

89. *Id.* at 1092.

90. *Id.* at 1100.

91. *Id.* at 1104.

92. *Id.*

93. *Id.* at 1111.

94. *Id.*

95. *Id.* at 1113.

the main constant in all of them: a *de novo* standard of review.

There are countless analytical studies that consistently show an alarmingly high rate of reversal for patent claim construction in the Federal Circuit.<sup>96</sup> To describe the details of each study would be redundant and unnecessary, but the point is well made. The *de novo* standard of review, as a result of the Supreme Court holding that claim construction is a matter of law, did not result in consistency or uniformity. Clearly, the goals of Congress in establishing the U.S. Court of Appeals for the Federal Circuit had been frustrated by the Circuit up to the point of the Supreme Court's decision in *Teva*.<sup>97</sup>

### B. Reversal Rates After the *Teva* Hybrid Standard was Adopted

The Supreme Court clarified the appropriate standard of review in its *Teva* opinion in 2015. As this case was decided recently, empirical studies on the effects of the hybrid standard are, regrettably, scarce. One study, focusing on a very small sample of cases, showed that a major factor in the reversal rate on appeal was whether the district court relied on extrinsic evidence.<sup>98</sup> The Federal Circuit has interpreted *Teva* as creating a two-step analysis for claim construction on appeal.<sup>99</sup> First, a patent is construed as a matter of law according to the four corners only.<sup>100</sup> If intrinsic evidence is solely relied upon, only the *de novo* standard of review applies on appeal.<sup>101</sup> Interestingly enough, the Federal Circuit has also interpreted *Teva* to allow the Circuit to disregard the subsidiary factual findings of the district courts where only intrinsic evidence is relied on to construe the patent.<sup>102</sup> By ignoring the factual findings regarding extrinsic evidence and relying on intrinsic evidence alone to construe the claims, the Federal Circuit can sidestep the “clear error” standard completely.

The *Teva* decision by the Federal Circuit on remand is a clear example of this sidestepping.<sup>103</sup> The Federal Circuit found there was sufficient intrinsic evidence to hold the claim term “molecular weight” was indefinite, so the Circuit invalidated those claims in the patent.<sup>104</sup> This conclusion was contrary to the explicit dictates of the Supreme Court's opinion. The Court instructed the Federal Circuit to defer to the factual

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96. See *supra* text accompanying note 7.

97. *Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831 (2015).

98. Cassandra E. Havens, *Teva v. Sandoz: The Supreme Court Rejects Millennial Federal Circuit's "Clearly Erroneous" Review Standard*, 31 BERKELEY TECH. L.J. 399 (2016).

99. *Id.* at 421.

100. *Id.*

101. *Id.*

102. *Id.*

103. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335 (Fed. Cir. 2015).

104. *Id.* at 1338.

findings of the district court, unless the findings were the product of “clear error.”<sup>105</sup> Yet the Federal Circuit decided the issue based only on intrinsic evidence, ignoring the factual findings of the district court altogether.<sup>106</sup> Therefore, the Federal Circuit is still finding ways to exclusively apply the *de novo* standard of review, making it probable that the high reversal rates for claim construction in the Federal Circuit will remain constant.

### PART III

#### A. *Reevaluating the Flaws in Markman II*

The Supreme Court’s decision in *Markman II* was the first major step leading to the current state of uncertainty. Aptly summarized by Chief Judge Mayer in *Cybor*, the Court rested its holding in *Markman II* almost exclusively in a policy judgment that judges were better suited to construe patents. The Supreme Court was correct in stating that history was no guide for determining whether the Seventh Amendment provided a right to a jury trial. The main reason for this ambiguity in the historical record is the fact that the practice of claiming in patent applications did not become common until the late nineteenth century.<sup>107</sup> Prior to claiming, specifications were used to guide courts in determining the scope of patents.<sup>108</sup> The Court stated that contemporary claim construction was most similar to eighteenth century specification construction. But claims in a patent are substantially different from the specification, which is why they both exist in the first place.

Equating the two was the first mistake the Court made in *Markman*. Claims are used to specifically define the scope of the patented subject matter, and increasingly contain many highly technical terms. Even judges with technical backgrounds, of which there are few, find it incredibly challenging to educate themselves on these technical terms.<sup>109</sup> As a result, extrinsic evidence is increasingly relied on by judges when construing disputed or technical terms in patent claims.<sup>110</sup> As claim construction is dispositive in a high percentage of cases, all parties to the litigation have the incentive to furnish expert testimony, and other evidence, supporting their interpretation of the claim term (or terms).

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105. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 840–41 (2015).

106. *Teva*, 789 F.3d at 1341.

107. J. Jonas Anderson & Peter S. Menell, *Informal Deference: A Historical, Empirical, and Normative Analysis of Patent Claim Construction*, 108 NW. U.L. REV. 1, 8–21 (2014).

108. *Id.*

109. HENRY FRIENDLY, *FEDERAL JURISDICTION: A GENERAL VIEW* 156–57 (1973).

110. See, e.g., Havens, *supra* note 98, at 415–18; Michael Goodman, *What’s So Special About Patent Law?*, 26 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 797, 829–34 (2016).

### B. *Determining Underlying Facts Should Be a Jury Task*

In this context, Justice Souter's pronouncement in *Markman II* that credibility decisions would only be needed in the rarest cases is flatly contradicted. In fact, a close reading of the Court's opinion in *Teva* indicates the Court is now citing *Markman II* for the opposite proposition. In arguing that claim construction necessarily was a mixed question of law and fact, the Court in *Teva* cited to *Markman II* for the proposition that trial courts will need to regularly make credibility determinations between experts. This is the exact opposite of the argument espoused in Justice Souter's opinion in *Markman II*, and it cuts in favor of the argument that juries would be better suited to construe contested claim terms. Thus, even the Court has reversed course on some of the policy arguments underlying its *Markman II* decision.

In light of this clear about-face, the Court felt it necessary in *Teva* to strengthen the arguments that claim construction is a question for the judge to decide. The Court argued that construction of the entire patent, as a whole, was substantially similar to construction of other legal instruments, such as contracts.<sup>111</sup> But even as the Court made this analogy, it pointed out the flaw in its own argument: when terms in a contract are disputed, the meaning of the disputed term becomes a question of fact for the fact-finder to decide.<sup>112</sup> As a question of fact, the meaning of the disputed term in the contract falls to the jury in a large amount of jurisdictions.<sup>113</sup> This is the exact factual situation that confronted the Court in *Markman II*: a term of art was used in a claim, and that term was disputed. If the Court were to treat the construction of that disputed term exactly the same as most courts treat the construction of ambiguous contract terms, the Court should have held that juries are the ones who decide the meaning of the disputed or technical term.

Additionally, it took the Federal Circuit and the Supreme Court almost two decades to finally arrive at the hybrid standard of review espoused in *Teva*. But just imagine for a moment what would have happened if, in *Markman II*, the Court had decided that juries were better suited to decide the subsidiary factual issues in patent claim construction. The Federal Circuit would have been required to review the factual findings of the jury under the more deferential standard of "substantial evidence."<sup>114</sup> Almost twenty years of uncertainty and inefficiencies would have been partly alleviated if the Court had at least gone that far in *Markman II*. Instead, patent litigators and district courts were left with cases like *Cybor*

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111. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 837–38 (2015).

112. JOHN BOURDEAU ET AL., QUESTIONS FOR COURT OR JURY, 17A AM. JUR. 2D CONTRACTS § 327 (2016).

113. *Id.*

114. *Glasser v. United States*, 315 U.S. 60, 80 (1942).

and *Lighting Ballast*.

### C. Construction of the Whole Patent Should Be a Jury Task

Although the ultimate question of infringement is reserved for the jury, some will argue the judge should still construe the patent as a whole, even if the jury were to construe the underlying disputed terms as a matter of fact. This argument would more accurately comport with the Court's decision in *Teva* and the analogous process of contract construction. So then why should juries, instead of judges, construe patents as a whole, and not just the disputed terms? The answer to that question is simple: countless studies show that judges, regardless of experience or training, are constantly reversed at an alarmingly high rate in the Federal Circuit. These studies also show increasing dependence on extrinsic evidence during the *Markman* procedures in trial courts. This increasing use of extrinsic evidence at the trial level means factual determinations are increasingly being made by the trial courts. If the goals of Congress and the Court (in *Markman II* and *Teva*) of supplying uniformity and efficiency in this area of the law are being frustrated by the current system, then a shift in the law is needed. As more factual determinations are made at the trial level, the argument for the shift to jury construction of the patent as a whole becomes correspondingly stronger.

In the decades since the Court's decision in *Markman II*, many scholars have analyzed the Federal Circuit's reversal rates of courts with more patent law experience, and compared those to the reversal rates of courts with less patent law experience. If, as the Court suggested in *Markman II*, judges are better equipped to construe patents as a whole, then judges with more training or experience in patent law would be reversed at a much lower rate in the Federal Circuit. In a 2001 study, judges were grouped into one of two groups: the "more active tribunal group" and the "less active tribunal group."<sup>115</sup> Included in the "more active tribunal" group were district courts which were reviewed more than ten times by the Federal Circuit during the studied time period, as well as the Court of Federal Claims and the International Trade Commission.<sup>116</sup> The reversal rate for the "less active tribunals" was 41%, whereas the reversal rate for the "more active tribunals" was 34%.<sup>117</sup> There is a small difference between the rates favoring the "more active tribunals." But the "more active tribunals" are still being reversed at an alarmingly high rate, including courts with exclusive jurisdiction over patent issues at the trial level. Thus, the current system leads to a large amount of vertical uncertainty in the realm of patent claim

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115. Chu, *supra* note 4, at 1121–22.

116. *Id.*

117. *Id.* at 1123.

construction.<sup>118</sup>

Another study, conducted in 2008, focused specifically on individual district court judges and showed that the second most active district in the country in terms of patent litigation, the Central District of California, had the highest reversal rate during the studied time frame.<sup>119</sup> This study also analyzed whether judges with more cases appealed to the Federal Circuit, leading to more feedback for the judges, were reversed at a lower rate over time.<sup>120</sup> It would be safe to assume that more feedback from the Federal Circuit to a particular judge on issues of claim construction would lead to a lower reversal rate for that judge over time. Yet the study found quite the opposite, as the highest rate of reversal correlated to judges that were reviewed by the Federal Circuit at least four times.<sup>121</sup>

All these studies clearly suggest that judges with considerable expertise and experience in patent law are just as, if not more, likely to be reversed on issues of claim construction in the Federal Circuit. It is patently obvious from the data that judges, experienced or not, find it incredibly hard to properly construe patents. The main arguments for judicial construction are that judges are more educated, more experienced, and have more opportunity to learn from the practice of construing claims over time. But if experience, training, education, and feedback all do not improve judicial aptitude, then there are few arguments left to support this premise of judicial superiority in claim construction. It seems evident from these studies that juries can at least construe claims as well as judges do.

Furthermore, it comes as no surprise that parties are unwilling to settle after an adverse claim construction in the trial court with this uncertainty looming.<sup>122</sup> The uncertainty makes it incredibly hard for adverse parties to value their cases reliably. From an economics perspective, this makes

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118. Ted Sichelman, *Myths of (Un)Certainty at the Federal Circuit*, 43 LOY. L.A. L. REV. 1161, 1187–88 (2010) (arguing that claim construction leads to most of the vertical uncertainty in the Federal Circuit).

119. Schwartz, *supra* note 7, at 246.

120. *Id.* at 251.

121. *Id.* at 252.

122. See *Cybor Corp. v. FAS Techs.*, 138 F.3d 1448, 1475 n.15 (Fed. Cir. 1998) (en banc) (Rader, J., dissenting) (“Three variables affect the settlement calculus of each party to litigation: p, the probability of the plaintiff obtaining damages; J, the expected value of a judgment for the plaintiff; and c, the cost of litigation. See Richard A. Posner, *The Federal Courts: Challenge and Reform* 89–94 (1996). If  $p \times J$  (pJ) exceeds c, then plaintiff will sue. The plaintiff values the case at  $pJ - c$ . If the defendant agrees on the values assigned to the variables, the suit will cost him  $pJ + c$ . This rough model poses an interesting question. Because the costs of litigation invariably exceed the costs of settlement, why do not all cases settle? Chief Judge Posner answers: “[U]ncertainty as to outcome is the key to the settlement rate. . . .” *Id.* at 90. This uncertainty leads each party to overestimate its chance of prevailing. Accordingly, each party will assign different values to the variables, most notably p, thereby diminishing the likelihood of settlement.”).



it difficult for adverse parties to value cases in a way that is conducive to settlement. Furthermore, with such a high rate of reversal, why wouldn't a litigant press on to the Federal Circuit? There is a 1 in 3 chance that the Federal Circuit will reverse the district court's claim construction on appeal. All of this means litigants are spending more money on litigation, the courts are using more resources, and the Federal Circuit's docket is bogged down with more appeals of claim construction issues. Therefore, efficiency is not being served by the current process of claim construction.

#### D. *The Way Forward*

The Supreme Court made a valiant effort to bring more uniformity and efficiency to this area of the law with its decision in *Teva*. The Court was correct in realizing that a more deferential standard of review was mandated under the Federal Rules. The Court was also correct in noting that a more deferential standard would reduce the reversal rates in the Federal Circuit. But, the Federal Circuit essentially ignored the Court in the *Teva* case on remand. To some, there might be nothing wrong with this intentional sidestepping of the Court's *Teva* opinion. However, as for the impact on the goals of uniformity and efficiency, this sidestepping will lead to a continuation of the same trends the Court sought to remedy in *Teva*.

In this context, the path forward seems clear. Everyone desires more uniformity and efficiency in the area of patent claim construction law. The Supreme Court attempted to reduce uncertainty by requiring the Federal Circuit to review the subsidiary factual findings of the district courts for clear error. The Federal Circuit subsequently thumbed its metaphorical nose at the Court, and has increasingly based its decisions on patent claim construction solely on intrinsic evidence. At the same time, patents have become increasingly technical, so trial courts have become increasingly dependent on extrinsic evidence. Unless the Court takes a more drastic step than it did in *Teva*, this area of the law will continue to suffer from uncertainty and inefficiency.

The Court should reverse its holding from *Markman II* as a matter of policy, and should characterize patent claim construction as an issue of fact for the jury to determine, except in cases where the patent is undisputedly clear on its face as a matter of law. Under this procedure, the judge should first decide whether any terms in the relevant patent are disputed or technical terms of art as a matter of law. If no terms are disputed or technical terms of art, the judge should construe the patent as a matter of law relying only on the four corners of the patent.

If, on the other hand, the judge determines that the parties have sufficiently demonstrated that the patent at issue has disputed or technical

terms of art, for which extrinsic evidence must be utilized, the construction of those terms should be a question of fact for the jury to decide. The jury would hear the extrinsic evidence so it would be better suited than the solitary district court judge to make credibility determinations. Also, the jury would bring a variety of diverse experiences and backgrounds to the table, making it a more robust analytical entity than the single district court judge. The jury would then construe the disputed or technical terms in light of the entire patent. Special verdict forms, containing a question identifying the jury's interpretation of each disputed or technical term, should be utilized in the trial court to insure the construction of each term is stated explicitly. On appeal, the Federal Circuit would review all determinations by the jury on issues of claim construction for "substantial evidence."

There would still be cases where the trial judge would be able to construe the patent as a matter of law, but those cases would be rare. The best guarantee that these cases would be rare is the adversarial nature of the American judicial system. In those rare cases though, the Federal Circuit would review the trial court's construction of the patent *de novo*. This proposed procedure would diminish the vertical uncertainty that exists at present, and would reduce the sidestepping ability of the Federal Circuit.

As to horizontal uncertainty, the Court in *Teva* actually stated contrary to Justice Souter's pronouncement in *Markman II* that issue preclusion would apply in some cases.<sup>123</sup> Admittedly, there would still be cases where the same language from the same patent would produce differing jury constructions in different proceedings. But, when balanced against the well documented vertical uncertainty and its economic repercussions, this horizontal uncertainty is the lesser of the two evils. This procedure would create an environment more conducive to settlements of claims as appellate review would be highly deferential in most cases, and case values would be easier to predict. This would in turn cut down on litigation costs, reduce the burden of constant appeals on the Federal Circuit, and free up the docket of the Circuit to decide other pressing matters.

## CONCLUSION

The Supreme Court ruled in *Markman II* that judges were more suited to the task of patent construction as a matter of policy. In the struggle to curtail the unintended ramifications of that decision, the Court tried to partially alleviate the uncertainty and inefficiency by establishing the

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123. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 839–40 (2015).

hybrid standard in *Teva*. The Federal Circuit has found a convenient way to continue business as usual. So, the Federal Circuit continues to frustrate the original intent of Congress in creating the court. A drastic change is needed to alleviate the current uncertainty, as it is fostering inefficiency. Thus, the Court should reverse *Markman II* and hold that a Seventh Amendment right to a jury trial attaches to patent claim construction. In doing so, the Court would effectively diminish the staggering vertical uncertainty, stifle litigation, and increase efficiency at the trial and appellate court levels. Until the Court does this, or something similar,<sup>124</sup> the world of patent litigation will continue to be a volatile world where the only certainty is uncertainty.

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124. See, e.g., Edward V. Di Lello, *Fighting Fire With Firefighters: A Proposal for Expert Judges at the Trial Level*, 93 COLUM. L. REV. 473, 499 (1993) (proposing the establishment of expert magistrate judges); Scott Brewer, *Scientific Expert Testimony and Intellectual Due Process*, 107 YALE L.J. 1535, 1681 (1998) (arguing that scientifically or technically trained judges should decide cases at the trial level where scientific or technical facts are in issue); Eric B. Cheng, *Alternatives to District Court Patent Litigation: Reform by Enhancing the Existing Administrative Options*, 83 S. CAL. L. REV. 1135, 1162 (2010) (suggesting shifting more patent cases to the International Trade Commission); Jeanne C. Fromer, *Patentography*, 85 N.Y.U. L. REV. 1444, 1490 (2010) (arguing a change to venue rules requiring patent litigation to stay close to home would foster experience in certain areas of technology prominent in that geographic area); Goodman, *supra* note 110, at 845 (proposing an expansion of the Patent and Trademark Appeals Board (PTAB) to make it the exclusive forum for addressing issues of patent validity).