Markman and Hilton Davis, the Federal Circuit Strikes and Awkward Balance: The Roles of the Judge and Jury in Patent Infringement Suits

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by
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* J.D. 1996, University of California, Hastings College of the Law; B.A., University of California at Berkeley. While this article was in the final stages of production at the printer, the Supreme Court decided Markman v. Westview Instruments, Inc., 1996 U.S. Lexis 2804 (U.S. Apr. 23, 1996). The Court affirmed the Federal Circuit, holding that claim interpretation was within the exclusive purview of judges. Given that the Court found in favor of increased judicial power in patent infringement cases, COMM/ENT feels the criticisms and suggestions herein are worthy of your consideration as they apply to the Court's decision and Federal Circuit's decision with equal force.
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Introduction

The Court of Appeals for the Federal Circuit recently rendered two decisions which represent a compromise between increasing the power of the judge and maintaining a role for the jury. The first, Markman v. Westview Instruments, Inc., increased the power of the judge in patent infringement cases. The second, Hilton Davis Chemical Co. v. Warner-Jenkinson Co., maintained or increased the jury’s role in those same cases. This Note, with reference to studies in juror comprehension and improved trial techniques, will explore whether the courts struck an appropriate balance.

Part I provides a brief introduction to patent infringement law. Part II summarizes Markman. Part III summarizes Hilton Davis. Part IV evaluates whether Markman or Hilton Davis represents the proper choice between allowing the judge or jury to decide patent infringement issues. The author concludes that the court in Markman went too far when it took claims construction issues from jurors.

I
Introduction to Patent Infringement

Patent law protects inventions which are new, useful, and non-obvious to practitioners in the technological field in which the invention was developed. Patent law protects inventions ranging from mechanical devices to mathematical algorithms. An invention may receive protection if it: (1) fits into the utility, design, or plant patent categories; (2) has a useful purpose; (3) is novel in comparison to the prior art; and (4) is not obvious from the prior art to a person of ordinary skill in the art at the time the invention was made. When an invention receives patent protection, the inventor is granted the right to exclude others from making, using, or selling the claimed invention in the United States “for a term beginning on the date on which the

3. In patent terms this is expressed as “not obvious from the prior art to a person of ordinary skill in the art at the time the invention was made.” DONALD S. CHISUM, UNDERSTANDING INTELLECTUAL PROPERTY LAW 2-18 (1992). Thus, prior art refers to knowledge in the field of the developed invention.
4. Id. at 2-8.
5. Id.
patent issues and ending 20 years from the date on which the application for the patent was filed in the United States.”

If another party makes, uses, or sells an invention which infringes a patent, the inventor may bring a suit in federal district court for patent infringement. To determine whether a party has infringed, the language of the patent claim must first be construed to determine the scope of the patent. Once the scope is defined, it must be determined if the accused product or process infringes on the patent.

The accused product or process can infringe in two ways. First, it can literally infringe on the patent holder’s patent. To literally infringe, an accused product or process must contain every element of the patent holder’s claim. Second, a patent or process can infringe under the doctrine of equivalents. The doctrine of equivalents provides broader protection for patent holders than literal infringement. Under the doctrine of equivalents, an accused product or process infringes when it performs “substantially the same function in substantially the same way to obtain the same result as the claimed invention.” This is frequently referred to as the “function/way/means” test.

An alleged infringer may raise several defenses: invalidity, unenforceability, laches, misuse, or experimental use. The patent holder’s remedies include: preliminary and permanent injunctions, damages, interest, attorney fees and multiple damages.

II

Markman v. Westview Instruments, Inc.

In the Markman trial, the plaintiff patent holder sued the defendant for infringing on his patent for a dry cleaning inventory control

12. A patent claim is a document which precisely describes the invention for which the inventor is seeking patent protection.
14. Id.
15. Id.
16. Id. at 2-251.
17. Id. at 2-233.
18. Id. at 2-252.
19. Id. at 2-255.
20. Id. at 2-251 to 2-289.
21. Id. at 2-289 to 2-305.
system. The key to determining whether the defendant’s system infringed was the definition of “inventory” in the plaintiff’s claim. The defendant’s system only tracked invoices and cash totals for his dry cleaning business, while the plaintiff’s system tracked individual articles of clothing through the dry cleaning process. The plaintiff’s patent claim stated that his system was designed to track “inventory.” The plaintiff argued that “inventory” meant invoices and cash totals, and did not include “articles of clothing.” The defendant countered that “inventory” necessarily included clothing as well as invoices and cash totals.

At the conclusion of the plaintiff’s case in chief, the defendant moved for a judgment as a matter of law (JMOL). The trial court deferred deciding the motion. At the conclusion of the trial, the judge instructed the jury to determine: (1) the meaning of the claims, and (2) whether the defendant’s system infringed the plaintiff’s patent. The jury found for the plaintiff. After the verdict, the judge considered the defendant’s JMOL motion. The judge ruled that “inventory” included articles of clothing and not just invoices and cash totals. Because the defendant’s system was incapable of tracking articles of clothing, the judge directed a verdict in favor of the defendant.

On appeal, the Federal Circuit held that it was proper for the judge to interpret and construe plaintiff’s patent claim to determine the scope of his rights. The court stated that claim construction should be based on: (1) the claim language itself, (2) the specifications (which may be diagrams and accompanying text and descriptions), and (3) the patent’s prosecution history. In attempting to under-

23. Id. at 1537.
24. Id. at 1538.
25. Id.
26. Id. at 1536.
27. Id. at 1537.
28. Id. at 1538.
30. Id.
31. Id.
32. Id.
33. Id.
35. Id.
37. Id.
stand these sources for claim construction, a judge may also hear expert testimony and refer to learned treatises in the field. However, the court cautioned that this extrinsic evidence can only be used as an aid to understand the terms of the claim. Extrinsic evidence cannot be used to vary or contradict the terms of the claim. The line between using extrinsic evidence as an aide for understanding and using it to vary or contradict the claim is at best a fine line to draw.

Prior to Markman, courts considered claim construction to be a mixed question of law and fact. In Perini America, Inc. v. Paper Converting Machine Co., the circuit court stated:

That a claim must be interpreted in a certain way is a conclusion of law. Like all legal conclusions, that conclusion rises out of and rests on a foundation built of established (undisputed or correctly found) facts. If the meaning of terms in the claim, the specification, other claims, or prosecution history is disputed, that dispute must be resolved as a question of fact before interpretation can begin.

Thus, according to Perini, the court can only interpret the claim if there are no disputes about material facts which pertain to claim construction.

Markman, however, suggests that claim construction is a pure question of law:

Through this process of construing claims by using 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 extrinsic evidence to assist in its construction of the written document, a task it is required to perform.

Markman drastically altered the roles of the judge and jury in patent infringement cases. Before Markman the jury would resolve any disputed facts in the extrinsic evidence and the judge would rely upon the jury's findings to construe the claim. Markman holds, however, that even when the evidence is in dispute, the judge may interpret the

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38. Id.
39. Id. at 981.
40. Id.
41. Chisum, supra note 3, at 2-236 to 2-239.
42. Id. at 2-244.
43. 832 F.2d 581 (Fed. Cir. 1987).
44. Id. at 584.
45. Markman v. Westview Instruments, Inc., 52 F.3d 967, 981 (Fed. Cir. 1995).
46. Perini, 832 F.2d at 583.
claim and define the scope of the patent holder's rights without those disputed facts being resolved by a jury.47

III

*Hilton Davis Chemical Co. v. Warner-Jenkinson Co.*

In *Hilton Davis*, the plaintiff alleged that the process which defendant used to purify its food coloring infringed the same process that plaintiff had patented.48 Defendant argued that its process was not the same as the patented process.49 Plaintiff's patent claim stated that the patented purification process took place in a range of 200 to 400 p.s.i.g. at a pH of 6.0 to 9.0.50 Defendant's process took place in a range of 200 to 500 p.s.i.g. at a pH of 5.0.51

The district court instructed the jury on the doctrine of equivalents.52 The court stated that infringement could be found under the doctrine of equivalents if the accused process performs "substantially the same function in substantially the same way to reach substantially the same result."53 The jury found that, under this doctrine, defendant had infringed upon plaintiff's patent.54

In affirming the trial court,55 the circuit court addressed three questions.56 First, "[d]oes a finding of infringement under the doctrine of equivalents require anything in addition to proof of the facts that there are the same or substantially the same (a) function, (b) way, and (c) result?"57 Next, "[i]s the issue of infringement under the doctrine of equivalents an equitable remedy to be decided by the court, or is it, like literal infringement, an issue of fact to be submitted to the jury in a jury case?"58 Finally, "[i]s the application of the doctrine of equivalents by the trial court to find infringement of the patentee's right to exclude, discretionary in accordance with the circumstances of the case?"59

47. Markman v. Westview Instruments, Inc., 52 F.3d 967, 981 (Fed. Cir. 1995).
49. Id.
50. Id. at 1515.
51. Id.
52. Id. at 1523.
53. Id.
54. Id. at 1516.
55. Id. at 1528-29.
56. Id. at 1516.
57. Id.
58. Id.
59. Id.
A. Are Additional Facts Required to Find Infringement Under the Doctrine of Equivalents?

The circuit court stated that while the "function/way/means" test is often enough to prove infringement, it "does not necessarily end the inquiry," especially in cases involving high technology.\(^5\) There are other factors which a court may instruct the jury to consider: first, "whether persons reasonably skilled in the art would have known of the interchangeability of an ingredient not contained in the patent with one that was;"\(^6\) second, whether evidence of copying is present, which would suggest that the changes that were made were insubstantial;\(^7\) third, whether evidence of an attempt to "design around" a patent is present, which would suggest that substantial changes were made to the accused device;\(^8\) and finally, whether the defendant independently developed the accused device without knowledge of the patented device\(^9\) (although this factor is only relevant to rebut an allegation of copying).\(^10\)

B. Is the Doctrine of Equivalents an Equitable Remedy to be Decided by a Court?

Defendants argued that since the Federal Circuit had frequently referred to the doctrine of equivalents as an equitable remedy,\(^11\) it should be applied solely by a judge.\(^12\) Alternatively, defendants argued that a jury should only be instructed on the doctrine of equivalents when there is evidence of subjective intent to copy or pirate a patented device.\(^13\) The court disagreed: "[T]he doctrine of equivalents is not an equitable remedy available only on a showing of the equities. Lack of awareness of the patent or its disclosure does not excuse infringement."\(^14\) Thus the court held that the doctrine of equivalents is not limited to those situations where the plaintiff has met an equitable threshold demonstrating that defendant acted in bad faith.\(^15\)

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60. Id. at 1518.
62. Id.
63. Id. at 1520.
64. Id.
65. Id.
66. Id. at 1521.
67. Id. at 1523.
68. Id.
69. Id. (citation omitted).
70. Id. at 1523.
C. Does the Judge Have Discretion to Apply the Doctrine of Equivalents in Accordance With the Circumstances of the Case?

The Federal Circuit held that the judge has no discretion to choose whether to apply the doctrine of equivalents, and that every patent holder is entitled to invoke the doctrine. Necessarily, this means that few patent infringement cases will be resolved through summary judgment. By simply pleading the doctrine of equivalents, a patent holder virtually guarantees a full jury trial.

D. Hilton Davis Maintained or Increased the Power of the Jury

Prior to Hilton Davis the issue of whether the judge or jury applies the doctrine of equivalents was unclear. Although the Supreme Court in Graver Tank & Manufacturing Co. v. Linde Air Products Co. stated that the doctrine of equivalents was to be resolved as an issue of fact, the Federal Circuit has characterized the doctrine as equitable. Thus, some cases emphasized that infringement under the doctrine of equivalents is a factual question, while others emphasized the doctrine’s equitable nature. As a factual question the application of the doctrine of equivalents is for the jury; as an equitable question, its application is for the judge. By concluding that the doctrine of equivalents presented an issue of fact for the jury, the Federal Circuit maintained or increased the power of the jury in patent infringement suits.

IV

Evaluating Whether Markman or Hilton Davis Represents the Proper Policy Choice: Should the Judge or Jury Decide?

The policies of Markman and Hilton Davis are in tension. While Markman increases the power of judges to foster predictability in the interpretation of a patent, Hilton Davis negates this power by allowing a jury to supersede the judge’s interpretation of the patent claim.

71. Id. at 1522.
72. Id.
74. See London v. Carson Pirie Scott & Co., 946 F.2d 1534, 1538 (Fed. Cir. 1991) (“This equitable doctrine evolved from a balancing of competing policies . . . .”).
75. See SRI Int’l v. Matsushita Elec. Corp. of Am., 775 F.2d 1107, 1118 (Fed. Cir. 1985) (en banc) (“It is settled that the question of infringement (literal or by equivalents) is factual.”).
76. See Charles Greiner & Co. v. Mari-Med Mfg., Inc., 962 F.2d 1031, 1036 (Fed. Cir. 1992) (“[c]areful confinement of the doctrine of equivalents to its proper equitable role . . . promotes certainty and clarity in determining the scope of patent rights.”).
A. The Role of the Jury in Civil Trials: Deciding What Issues Should be Determined by a Jury

In determining whether an issue should be decided by a judge or jury, courts first look to the Constitution. The Seventh Amendment states, "In suits at common law . . . the right of trial by jury shall be preserved." This amendment was interpreted by Justice Story as requiring a jury trial in matters where a jury trial would have been provided in England prior to 1791. Additionally, the Court has interpreted this amendment as requiring a jury trial in statutory causes of action analogous to common law actions. As a result, the debate about whether a particular jury practice is required by the Constitution typically involves an evaluation of cases from the 17th and 18th centuries. Such an analysis is difficult for two reasons. First, the court records of many of the old English cases are incomplete and unreliable. Second, the age of the cases and societal differences make a principled comparison extremely difficult. If it is unclear whether the Seventh Amendment requires a jury to consider a particular issue, courts should consider the institutional value of the jury and whether a jury would be able to accurately decide the issue in question.

In evaluating the institutional value of the jury, courts should recognize that the jury represents the conscience of the community. This legitimizes judicial decisions and enhances the public's appreciation of citizen participation in the decision-making process. As Judge Higgenbotham observed, "This sense of participation is felt not only by the jurors who actually participate in a particular trial, but also extends to the members of the public whom the jurors represent. I believe that the maintenance of public participation in the judicial process is essential to continued popular acceptance of judicial deci-

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77. U.S. CONST. amend. VII.
80. See, e.g., Patrick Devlin, Equity, Due Process and the Seventh Amendment: A Commentary on the Zenith Case, 81 MICH. L. REV. 1571, 1599 (1983) (arguing that there was a complexity exception to the right to jury in England in cases dating back to the 17th century); Morris S. Arnold, A Historical Inquiry Into the Right to Trial by Jury in Complex Civil Litigation, 128 U. PA. L. REV. 829, 840-46 (1980) (responding to Devlin's article, Arnold argues that the cases on which Devlin relies are too frail to support a complexity exception to the Seventh Amendment).
81. Arnold, supra note 80, at 841.
82. Matsushita, 631 F.2d at 1083.
sions."85 Structurally the jury also acts as a check upon the power of the judge.86 The jury provides an important check in our system of checks and balances. It strengthens the separation of powers by ensuring that individual judges do not become the sole arbiters of all disputes.87 As Professor Freidland stated, "according the jury a greater voice during trial reallocates the division of power, providing a symbolic and perhaps even an actual check on the court. The symbolism of juror participation strengthens the conceptualization of the jury as the representative of the people."88

Of course, the institutional value of the jury is dependent upon its ability to render accurate decisions. Accuracy is essential for two reasons. First, the parties may have substantial monetary interests at stake.89 If the jury errs, parties will pay for wrongs they never committed.90 Second, accuracy maintains the legitimacy of the judicial process.91 If jury decisions appear to be erroneous and irrational, parties will lack confidence that their disputes will be justly and equitably resolved.92

B. Markman

In determining whether it is proper for the jury to resolve claims construction issues, the court in Markman properly looked first to the Constitution. The majority concluded that patent cases in 17th and 18th century England did not address the question of whether the judge or the jury was to construe the patent claim.93 Any constitutional concerns raised by this opinion must be limited to the issue of claim construction. It is significant that neither the dissenting nor the concurring opinions cite any cases supporting the proposition that claim construction was a question of fact or involved triable issues of fact in or prior to 1791. . . . The search for such a case may well be a fruitless one because of the manifest differences in patent law in eighteenth century England and patent law as it exists today in Title 35 of the United States Code.94

The dissent disagreed. It argued that it was clear patent claim construction and the determination of infringement were issues for the

85. Id. at 59.
86. Freidland, supra note 83, at 207.
87. Id.
88. Id. at 207-08.
89. Id. at 194.
90. Id.
91. Id. at 195.
92. Id.
94. Id. at 984 (citations omitted).
jury in 17th and 18th century England. The dissent concluded, "On this history it is jarring to come upon the majority's argument that the Seventh Amendment no longer applies because there are now 'claims' in United States patents, whereas the old English patent system did not have claims as we know them."96

It is unclear whether the dissent or the majority is correct. The differences in technology and patent procedures make comparison between modern American and 17th and 18th century English patent cases nearly impossible. Recognizing this, the majority focused instead on the policies to be served by taking claims construction issues away from the jury.

The Markman decision was intended to foster predictability in patent litigation. Predictability is extremely important because uncertainty may frustrate the fundamental policies patent protection is supposed to serve. Patent protection represents a compromise between providing an incentive for inventors to invest their time and money in developing new technology, while ensuring the free flow of information to foster further technological advancement.97 This compromise is struck by rewarding the inventor with a limited term monopoly over the right to make, use, or sell the invention. However, to receive this right, the patentee must publicly disclose the specifications of the invention.98 Full disclosure provides others with a clue to further technological advances and, after the patent expires, allows others to reproduce the invention.99 Uncertainty may frustrate this compromise. As Judge Michel100 explained:

If an invention's patentability is uncertain, individual and corporate inventors alike may elect not to disclose it in a patent application that, under present law, becomes public upon allowance. Instead, they may decide to maintain it as a trade secret. Similarly, if the sustainability of a patent is uncertain, the incentive to file is diminished, if not eliminated.101

With little incentive to file a patent claim, many inventors may choose to forego the high costs of prosecuting a patent. As a result, the public will lose the benefits of public disclosure and further technological

95. Id. at 1011.
96. Id. at 1016.
97. See Chisum, supra note 3, at 1-2.
98. Id.
100. Judge Michel currently sits on the United States Court of Appeals for the Federal Circuit. He was in the majority in Markman and Hilton Davis.
advancement. Furthermore, if the uncertainties are too high, corporations may choose not to fund the research and development of new technologies. In either case, the policies which our patent system was developed to foster would be frustrated, and society would lose the benefits of new technology.

The majority in Markman reasoned that requiring a judge to interpret the terms of a patent, and therefore the scope of the patentee's rights, served the policies behind the Patent Act more effectively than leaving interpretation to the jury. Reasoning that judicial interpretation would foster predictability, the majority in Markman explained:

[Competitors] may understand what is the scope of the patent owner's rights by obtaining the patent and prosecution history—"the undisputed public record"—and applying established rules of construction to the language of the patent claim in the context of the patent. Moreover, competitors should be rest assured, if infringement litigation occurs, that a judge, trained in the law, will similarly analyze the text of the patent and its associated public record and apply the established rules of construction, and in that way arrive at the true and consistent scope of the patent owner's rights to be given legal effect.

Markman implies that only a judge can apply "the established rules of construction." Necessarily, the majority also implies that a jury would be unable to apply those rules to arrive at a proper construction of a patent claim. This means that the court in Markman found that the jury's inability to accurately decide claim construction issues would override the jury's institutional value.

If it is true that juries are unable to render principled and predictable decisions, then the Markman court properly removed the claims construction issue from the jury. The jury's institutional value is only present when it is able to render accurate decisions. However, if jurors can render principled and predictable decisions, then the court should have preserved or increased the role of the jury as it did in Hilton Davis. As an accurate decision-maker, the jury also brings institutional legitimacy to patent infringement trials. The key to jurors' ability to render principled decisions is their ability to comprehend the issues raised in a patent infringement trial, and to properly apply the judge's instructions. If jurors can accomplish these

102. Id.
103. Id.
105. See id. at 979.
106. See Freidland, supra note 83, at 207.
107. See id.
tasks, then they should be able to render a principled and predictable verdict.

C. Support for the Policies Served by Markman—the Complexity Exception to the Seventh Amendment & Juror Comprehension

1. The Complexity Exception to the Seventh Amendment

There may be good reason to believe that jurors render unprincipled and unpredictable decisions due to lack of comprehension. Twenty years ago a debate raged about whether juries were competent to reach principled decisions in complex antitrust litigation.\(^\text{108}\) The debate began with footnote ten in *Ross v. Bernhard*.\(^\text{109}\) In *Ross*, the Court stated a tripartite test for determining whether a party is entitled to a jury trial. The factors were, “first, the pre-merger custom with reference to such questions; second, the remedy sought; and third, the practical abilities and limitations of juries.”\(^\text{110}\)

This footnote led one court to develop a “complexity exception” to the Seventh Amendment.\(^\text{111}\) The court in *In re Japanese Electronic Products Antitrust Litigation* provided the rationale for its newly developed “complexity exception.” In describing the shortcomings of juries the court stated:

The long time periods . . . are especially disabling for a jury. . . . Furthermore, a jury is likely to be unfamiliar with both the technical subject matter of a complex case and the process of civil litigation. The probability is not remote that a jury will become overwhelmed and confused by a mass of evidence and issues and will reach erroneous decisions. The reality of these difficulties that juries encounter in complex cases is underscored by the experience of some federal district judges who have found particular suits to have exceeded the practical abilities of the jury.\(^\text{112}\)

The court then explained why a judge would be able to render a more principled decision than a jury in a complex antitrust suit:

A long trial would not greatly disrupt the professional and personal life of a judge and should not be significantly disabling. In fact, the judge’s greater ability to allocate time to the task of deciding a complex case can be a major advantage in surmounting the difficulties posed by the suit. . . . [A judge’s experience in civil litigation] can enable him to digest a large amount of evidence and legal argument, segregate distinct issues and the portions of evidence relevant to


\(^{110}\) Id. at 537 (emphasis added).


\(^{112}\) Id. at 1086.
each issue, assess the opinions of expert witnesses, and apply highly complex legal standards to the facts of the case.\textsuperscript{113}

The court concluded that when a case is beyond the "practical abilities of a jury," and an unprincipled jury verdict is likely to result, due process requires a court to strike the jury demand.\textsuperscript{114} Thus, the court held that complex antitrust suits should be tried by the court and not a jury.\textsuperscript{115}

Other courts did not follow the invitation to find a "complexity exception" to the Seventh Amendment.\textsuperscript{116} The Ninth Circuit stated that the complexity of a case is no reason to strike a rightful jury demand.\textsuperscript{117} Instead, the court recommended that the parties' lawyers and the court itself should make an extra effort to organize and present the material in a form "which is understandable to the uninitiated."\textsuperscript{118}

2. Studies on Juror Comprehension in Complex Cases

In response to cases such as Japanese Electronics and U.S. Financial Securities, many studies have been conducted on juror comprehension in complex cases. The Federal Judicial Center conducted the first comprehensive study.\textsuperscript{119} This study examined how jurors performed in lengthy civil trials.\textsuperscript{120} The researchers surveyed jurors from twenty-nine trials each lasting more than twenty days.\textsuperscript{121} The survey results obtained from these jurors were compared to the results obtained from jurors who participated in trials lasting less than twenty days. Forty-six percent of jurors from the longer trials stated that the evidence was difficult or very difficult.\textsuperscript{122} Twenty-nine percent of the jurors from the shorter trials stated that the evidence was difficult or very difficult.\textsuperscript{123} However, even in the longer trials, a majority of the jurors reported that the evidence was within their comprehension.\textsuperscript{124} These results indicate, at least from the juror's perspective, that the
length of the trial does not render the jurors unable to make a rational decision.

The American Bar Association (ABA) conducted another study.\textsuperscript{125} The ABA Report consisted of an in depth examination of jury decision-making in four complex cases.\textsuperscript{126} The subjects of these cases were antitrust, sexual harassment, misappropriation of trade secrets, and insurance fraud.\textsuperscript{127} The researchers interviewed and gave surveys to the jurors in each case to assess their comprehension of the issues raised at trial.\textsuperscript{128} The volume of evidence presented to the jurors in each of these cases had some impact on juror comprehension, but did not seem to be a controlling factor.\textsuperscript{129} Instead, the jurors' prior familiarity with the issues in each of the cases seemed to control their comprehension of the evidence. For example, despite the large volume of evidence in the sexual harassment case, the jurors stated that they had no difficulty understanding the interpersonal relationships involved.\textsuperscript{130} However, in the trade secret case, jurors expressed great difficulty in comprehending the issues involved.\textsuperscript{131}

A second case study found that jurors in asbestos cases misunderstood the medical evidence.\textsuperscript{132} Another case study found that while jurors understood the primary facts involved in an antitrust suit, they had great difficulty understanding the economic concepts and technical legal standards necessary to apply to those facts.\textsuperscript{133}

These studies indicate that the length of the trial does not have as much impact on jurors' comprehension of the issues as does the nature of the issues. Specifically, scientific and technical issues seem to cause the greatest trouble for jurors.

These findings are especially relevant in the patent litigation area. Jurors are not only required to gain an understanding of complex scientific data, as in the trade secret and asbestos cases, but are required to apply technical legal standards, as in the antitrust cases. Thus, the studies indicate that jurors are very likely to misunderstand the issues raised during a patent infringement case.

\textsuperscript{125} American Bar Association, Jury Comprehension in Complex Cases: An ABA Satellite Seminar (March 22, 1990) [hereinafter ABA Report].
\textsuperscript{126} Id. at 9.
\textsuperscript{127} Id.
\textsuperscript{128} Id. at 7, 8.
\textsuperscript{129} Id. at 26.
\textsuperscript{130} Id.
\textsuperscript{131} Id.
\textsuperscript{132} Cecil et al., supra note 119, at 755.
\textsuperscript{133} Id.
D. Support for the Policies Served by *Hilton Davis*: Taking Power Away from the Jury May Not be the Way to Increase Predictability

There are several reasons to doubt that *Markman* will actually increase predictability. First, *Markman* assumes that judges will be better able to interpret claims than juries. One must question if this is actually the case. While the Federal Circuit has special expertise in patent cases, the typical district court judge does not. Senior U.S. District Judge William Ingram, who has presided in nearly twenty patent trials, doubts that judges can interpret claims more accurately than juries. He stated, "I think it's naïve to believe that judges, who have spent most of their time doing something other than engineering, are ever going to be able to understand that... I think we're all in the same boat." At best it is unclear whether judges can interpret patent claims more accurately than juries.

Second, even the claim that *Markman* could increase predictability by reducing the number of issues that a jury needs to consider during the trial is questionable. As Charlene M. Morrow, an intellectual property partner at Fenwick & West, explains:

*Markman* does not preclude a trial judge from deferring the claim construction issue until trial. In cases where the judge determines that the invention is complex, and that he needs to hear a lengthy tutorial on the subject matter, he may not wish to duplicate the effort involved by having the tutorial given a second time for the jury.

Thus, when a judge defers the claim construction issues, the jury must still hear all of the scientific evidence related to claim construction. The number of issues on which a jury must hear evidence is not reduced, and the jury's burden to understand the evidence presented during trial is not lightened under *Markman* in cases when the judge defers the patent construction issue until the end of the trial.

Finally, *Markman* may increase predictability by simplifying jury deliberations and the legal rules that the jury must apply. Before *Markman*, jurors had to perform three steps: first, they had to perform a complicated legal analysis to construe the patent claim; then, they had to decide whether there was literal infringement; last, if there was no literal infringement, then they may have had to determine whether there was infringement under the doctrine of equivalents. *Markman*

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implicitly found that forcing the jury to perform all of these complicated tasks may have exceeded the abilities of lay people.\textsuperscript{136}

Removing the first step in the analysis from the jurors' responsibility could arguably have two effects. First, since there will be fewer issues for the jury to consider, the jury will be presented with less scientific evidence and will not have to hear as many expert witnesses. This may help to reduce confusion and increase comprehension. Second, since the judge will construe the patent claim, the jury will receive more guidance in deciding the infringement issue.\textsuperscript{137} With additional guidance, the chances that the jurors will misapply the legal standards will be reduced.

However, taking the claims construction issues away from the jury is an extreme reaction or panacea. The \textit{Markman} court should have considered the benefits of improved trial techniques to give the jury more guidance in their deliberations and increase jury comprehension. With more guidance and increased comprehension, jurors may be able to fulfill their role as accurate decision-makers. As accurate decision-makers, the juries will provide institutional benefits\textsuperscript{138} as well as the predictability in results \textit{Markman} attempts to foster. These improved trial techniques include: bifurcating claims construction and infringement issues, allowing jurors to take notes, providing written instructions, allowing juror questions, providing neutral experts, giving pretrial instructions, and using "blue ribbon" or expert juries.

\textit{1. Improved Trial Techniques to Increase Juror Comprehension and Increase Predictability in Jury Verdicts}

\textit{a. Bifurcation}

Bifurcation is the separation of legal issues in a trial into two separate proceedings.\textsuperscript{139} In patent infringement cases, claims construction issues could be heard and decided by one jury in one proceeding, while infringement issues could be heard and decided by another jury in another proceeding. Separation of issues in a trial compartmentalizes the issues, facilitating juror understanding.\textsuperscript{140}

In a patent infringement case, bifurcation may increase predictability. While \textit{Markman} may arguably increase predictability to the extent that jury deliberations are simplified and juror comprehension is increased, bifurcation also simplifies the task of the jury. Bifurca-

\begin{itemize}
\item \textsuperscript{136} Markman v. Westview Instruments, Inc., 52 F.3d 967, 978 (Fed. Cir. 1995).
\item \textsuperscript{137} Michel, \textit{supra} note 99, at 1235.
\item \textsuperscript{138} See discussion \textit{supra} pp. 640-41.
\item \textsuperscript{139} \textit{FED. R. CIV. P. 42(b)}.
\item \textsuperscript{140} \textit{In re Bendectin Litigation}, 857 F.2d 290 (6th Cir. 1988).
\end{itemize}
tion, however, does not remove claim construction issues from the jury; instead, it simply limits the jury's consideration to one issue at a time. By limiting the number of issues that the jury must consider at the same time, bifurcation may increase juror comprehension thereby ensuring that jurors will be able to perform their role as accurate decision-makers. Thus, bifurcation may increase predictability to the same extent as *Markman* without compromising the jury's institutional benefits.

However, bifurcation does have problems. First, issues often cannot be cleanly separated. Additionally, even if the issues can be cleanly separated, some scholars have suggested that jurors need to hear the entire story during trial. If issues are separated, jurors may be less effective in coming to a principled decision. However, if a judge resolves the claim construction issues before trial, the same problems exist with the *Markman* procedure as with bifurcation. Under *Markman*, the jury will still only hear one phase of the trial. Whether the first phase is resolved by a judge or another jury is irrelevant.

A more serious problem with bifurcation is that holding two separate trials may strain judicial resources. The effort required to educate one jury in the relevant technical area already takes a lot of time and energy. Educating two juries may create such a burden as to outweigh the benefits of bifurcation.

b. Juror Note Taking

Students take notes in school in order to remember the issues discussed in class. Yet some judges require jurors to hear a trial without the benefit of a notebook. Allowing jurors to take notes in patent cases may facilitate the jurors' understanding of the issues by helping jurors to focus on the proceedings.

Some judges, however, express concerns about letting jurors take notes. The main concern is that good note takers will unduly dominate deliberations. Other judges, attorneys, and jurors contest this

141. *See* Symbolic Control, Inc. v. International Business Mach. Corp., 643 F.2d 1339 (9th Cir. 1980) (court reversed the district court because there was too much overlap between the issues which the court attempted to separate).


143. *Id.*


145. *See* Cecil et al., *supra* note 119, at 769.

146. United States v. Maclean, 578 F.2d 64, 66 (3rd Cir. 1978).

147. *Id.*
concern. Juror studies indicate that note taking facilitates an understanding of the issues without the ill effects feared by its opponents. In the ABA Report, 55% of the jurors surveyed said that note taking helped keep their minds on the evidence. Additionally, there was no evidence that note takers dominated deliberations. Since increased understanding increases predictability, and no ill effects have been demonstrated, jurors should be allowed to take notes during patent infringement trials.

c. Written Instructions

Written final instructions to a jury may provide much guidance to the jury during their deliberations. In a patent infringement case writing comprehensive instructions may be difficult, but the written instruction could prove to be an essential tool to remind the jury of the issues they are expected to resolve. "Judges and attorneys who have had experience with written instructions have expressed satisfaction." However, there are some potential problems. First, jurors may not read certain clauses in context and may place too much weight on one segment of the instructions. For example, a jury applying the doctrine of equivalents could place too much weight on the fact that the accused invention performs the same function as the patented invention, without considering the other factors. Second, because jurors have the instructions before them, jurors may be too embarrassed to ask clarifying questions. However, these concerns seem minor, and empirical evidence shows that jurors uniformly find written instructions to be very helpful. Additionally, it is difficult to see how the perceived problems with written instructions are not equally present with oral instructions. Thus, jurors should be given written instructions in patent infringement trials.

d. Juror Questions

Another method of improving juror understanding is to allow the jurors to ask questions of expert witnesses. This would be helpful be-
cause an expert may overlook information that the jurors believe is crucial to making a decision.\textsuperscript{157} Although jurors were not allowed to ask questions in any of the case studies contained in the ABA Report, one juror thought it would have improved her ability to comprehend witness testimony.\textsuperscript{158} In a patent case, there might be one aspect of the technology which the jurors do not quite understand. Allowing them to ask questions would ensure that their lack of understanding is addressed.

The problem with this technique is that jurors may feel snubbed if an attorney objects to one of their questions. Lempert suggests a method which would help to avoid this problem: allow the jury to submit written questions to the judge after the parties are finished examining a witness.\textsuperscript{159} The judge could then screen out inadmissible questions outside the presence of the jury, asking only admissible questions.\textsuperscript{160}

In addition to increasing understanding, allowing questions increases juror involvement and may increase juror focus during lengthy trials.\textsuperscript{161} Also, the parties and the judge can gauge how well a jury is comprehending the issues by the questions they ask.\textsuperscript{162} If there appears to be an area with which the jury is having special difficulty, the judge can use jury control mechanisms more aggressively.\textsuperscript{163} For example, a judge could direct parties to clarify certain issues with which the jury is having trouble.\textsuperscript{164}

As with the other suggestions, there are problems with allowing juror questions. First, "jurors may give disproportionate weight to the evidence which [answers] their questions."\textsuperscript{165} Next, juror questions may add trial time to patent cases which are already quite long.\textsuperscript{166} Finally, juror questions may take control of the case away from the parties.\textsuperscript{167} However, these problems are speculative. Any measure which may increase juror comprehension without unduly prejudicing
the parties should at least be attempted before taking patent claim construction issues away from the jury.

e. Neutral Experts

Difficult concepts of engineering and biology, which form the background of many of the most complex patent infringement trials, are not easily understood in the traditional question-answer procedure of a trial. Instead, an agreed upon expert could present a tutorial on basic noncontroversial concepts to both the judge and the jury.

Lempert criticized this suggested improvement:
This reform is undoubtedly oversold. It shares the lay assumption that the scientific implications of evidence are likely to be unequivocal, and implies that the primary reason that parties' witnesses disagree is that they are paid to espouse different positions. . . .

A judicially appointed expert may be neutral in the sense that he owes his salary to neither party, but he may have a strong allegiance to a particular theoretical perspective or to a way of reading equivocal evidence.

While it is true that much debate about scientific and engineering principles exists at higher levels, there is a good deal of non-controversial information that can provide jurors with the background necessary to understand the more sophisticated issues presented during trial. For example, in electrical engineering, most experts agree on how semiconductors work. In biology, most experts agree on the manner in which cells reproduce. There may be disputes about the intricacies of how one semiconductor is different from another, or why one type of cell reproduces differently than another, but there is agreement on the basic concepts. A neutral expert could do much to increase juror comprehension, and in turn, predictability of results. Thus, neutral experts should be used in patent infringement suits.

f. Pretrial Instruction

Jurors have difficulty applying complex legal doctrines to the facts of a case. One solution is to instruct the jurors on the law before evidence is presented to them. Early instruction provides jurors with a mental structure into which they can fit evidence as it is presented during trial. In a patent infringement case, jurors should

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170. Id. at 589.
172. ABA REPORT, supra note 125, at 43.
173. Id. at 49.
174. Id.
be instructed at the pretrial phase on claims construction, literal infringement, and the doctrine of equivalents. Receiving these instructions in the pretrial phase would allow jurors to understand the significance of the evidence as it is presented. According to the ABA Report, 67% of the jurors who received pretrial instructions said that the early instructions helped them weigh the evidence.\footnote{175}{Id. at 50.}

One problem with early instruction is that it may cause jurors to prejudge a case.\footnote{176}{Lempert, \textit{supra} note 157, at 122.} Another problem is that as issues change, evidence that was once marginally relevant becomes critical. If jurors focus only on evidence clearly relevant to the early instructions, they may miss critical evidence which becomes important as the case develops. Yet, while these problems may exist hypothetically, they have not materialized in any studies conducted on early instruction.\footnote{177}{See, e.g., Larry Heuer & Steven D. Penrod, \textit{Instructing Jurors: A Field Experiment with Written and Preliminary Instructions}, 13 \textit{Law \& Human Behav.} 409 (1989).} Since early instruction increases juror comprehension and has no demonstrated negative effects, it should be used in patent infringement cases.

g. Expert or Blue Ribbon Juries

Superficially, having a jury composed of experts in the relevant field seems to be the best solution to the problem of juror comprehension. As experts, jurors on a blue ribbon jury would come to the courtroom with the knowledge required to understand the evidence presented to them. No time would be wasted educating jurors. Since they would comprehend the technical issues, expert jurors would probably render more predictable verdicts than either a lay judge or jury.

However there are some significant problems with using an expert jury. First, as professionals in the relevant field, they may have their own technical theories which may bias their opinions.\footnote{178}{John W. Wesley, \textit{Note, Scientific Evidence and the Question of Judicial Capacity}, 25 \textit{Wm. \& Mary L. Rev.} 675, 681-82 (1984).} These biases may prevent an impartial verdict.\footnote{179}{Id.} In contrast, a lay jury brings a fresh perspective, untainted by previous knowledge of the relevant field.\footnote{180}{Id.} While this lack of knowledge may be somewhat of a handicap, it also serves to ensure that an impartial verdict is reached.\footnote{181}{Id.} A related problem is that a jury of professionals would
not represent the conscience of the general community. Instead it would represent a very narrow band of our society. As a result, much of the institutional benefits provided by a jury would be lost. Finally, it may be practically impossible to find twelve professionals who would be willing to sit on a jury during a lengthy patent trial. If a lay jury can be sufficiently educated to comprehend most of the issues, then the benefits of using an expert jury will be reduced, and these problems will weigh heavily against the use of an expert jury. Use of expert juries should only be considered if educating a lay jury proves to be unsuccessful.

2. What Markman Should Have Done and What the Supreme Court Should Do

Markman should have considered the potential effects of these trial techniques on juror comprehension and predictability before depriving the jury of the claims construction issue. If these techniques increase juror comprehension, then jurors will be able to fulfill their role as accurate decision-makers. As accurate decision-makers, jurors provide institutional benefits that are not present when a judge decides an issue. The most appropriate techniques for patent infringement suit include: allowing jurors to take notes, the use of written instructions, allowing jurors to question expert witnesses, the use of neutral experts to provide tutorials in the relevant fields, and the use of pretrial instructions. Some of these techniques have problems, but the benefits in aiding juror comprehension and predictability outweigh any burdens they may present. The Supreme Court has granted certiorari to hear Markman and Hilton Davis.182 Hopefully, the Court will recognize the value of the jury by reversing the Federal Circuit’s Markman decision and affirming the Hilton Davis decision.

V

Conclusion

Juries provide institutional benefits which are not present when judges decide issues, but studies indicate that jurors are likely to not comprehend many of the issues raised in patent infringement trials. Thus, one can understand why Markman and Hilton Davis are in tension. It appears that the Federal Circuit may have recognized the conflicting policies and decided to make a compromise. Whether the

court struck a proper balance depends on whether leaving claims construction to the judge will actually increase predictability to such an extent that reducing the jury’s role is justified.

Markman went too far, too quickly, when it wrenched claims construction issues from the hands of the jury. The Federal Circuit should have considered the various methods of improving juror comprehension before deciding that juries are incapable of rendering predictable decisions. Only after trying at least some of the techniques discussed in this Note and finding no improvement in results would the court have been justified in limiting the role of the jury to the extent it did in Markman.